Det. Bel-Isle & Windsor Ferry Co. 68

DEVOTED TO NAVIGATION, COMMERCE, ENGINEERING AND SCIENCE.

VOL. XI. NO. 8. CLEVELAND, O., FEBRUARY 21, 1889. $2.00 PER ANNUM SINGLE COPIES 5 CENTS

AROUND THE LAKES.

CLEVELAND, OHIO.

Mr. J. C. Barnes, agent for the Ætna shaking grate, is making these admirable grates for all the new steamboats now building at this port.

Mr. McCormack superintendent of construction at Quayle's Sons shipyard, is building a sloop yacht for Overbeck Bros., 39 feet over all 29 feet 8 inches on water line, beam 12 feet 6 inches, draft 5 feet.

Captain Gerlach of the Cleveland yacht club is building at Rocky River, Ohio, a new compromise sloop yacht, dimensions 29 feet 8 inches on water line, 38 feet over all beam 9 feet 4 inches, draft 4 feet 9 inches.

Captain Mallory of the schooner Redwing in speaking of the Providence Windlass manufactured by the American Ship Windlass Co. says that this windlass is the best that he has ever known and that he has no use for any other.

The present outlook promises a very favorable season in yachting circles and the Cleveland yacht club have plans for a fine, commodious club house, to be built on the lake front somewhere in the locality of the marine hospital.

Mr. George Parrish yacht builder is completing a yacht which he commenced building two seasons ago her dimensions are length overall 33 feet 26 feet on water line beam 9 feet draft about 2 feet 6 inches. She is to be already for this season.

Captain Geo. B. Cox, one of our oldest marine friends, passed his sixty-eighth milestone yesterday. The captain promises to give us some of his remininscences in the near future which will probably be interesting to many of the older mariners on the lakes.

Captain Hewitt left for Detroit last night to testify in the case of the Mackinaw Lumber Co. vs. Minch and others. The case is one of damage caused by raft towing in the St. Clair river and the outcome will be watched closely by vessel men and others interested.

We take pleasure in recommending the Mount Olive Erasive Liquid, manufactured by Captain D. A. McLachlin, for cleaning varnish and painted articles without injury to the polish. Price 40c per gallon. Address the Captain at No. 633 Trumbull., ave Detroit, Mich.

The sloop yacht Alert is under going general repairs at Coit's beach. The sloop yacht Sylvia has also had considerable work done on her, a 3-ton iron shoe having been fitted, and cabins improved and she is having a new suit of canvas; she will be in perfect racing trim for the coming season.

We have been shown a blue print of the machinery for railroad round houses designed for this city and Younstown, all the iron work of which will be done by the Chase Fog Whistle machine works. This job requires close figuring and if the above named company cannot do it at an approximate cost we lose our guess.

Meteorological summary for the week ending February 19, 1889:

Mean barometer	29.26
Mean temperature	24 8
Mean humidity	75.0
Total precipitation	.46
Prevailing direction of wind	West
Total wind movement, miles	1813
Average cloudiness	5.7
Average state of weather	Cldy
Max. temperature, (highest)	46 8
Min. temperature, (lowest)	9.5

W. H. HARMON, Sergeant Signal Corps.

A suit against the administrator of the estate of the late Stephen V. Harkness, began by Ole Anderson, was put on trial before Judge Lamson Monday morning. The suit is for $10,000 damage and is based on the following allegations. June 23, 1887, Anderson was employed as a sailor on board Mr. Harkness' yacht "Peerless" and was subject to the orders of Captain Avery. That day the yacht was engaged in towing a scow and Anderson was sent on board the scow to keep her off the yacht. While he was engaged in so doing the yacht without warning to him increased her speed and his hand was caught in the ropes and torn off.

Captain Thomas Wilson, manager of the Wilson Transit Line, is now on a visitto Florida with his family. Captain Wilson will probably extend his vacation for a couple of weeks yet.

Captain John Connors of Chicago has purchased one eighth of the schooner Thomas P. Sheldon from Captain H. Cummings consideration private. Captain John Connors will sail the Sheldon himself this season. Captain Connors is in the city and expresses himself well pleased with his purchase.

Owners and shippers are very quiet at this writing, and no new developments are reported by vessel owners, agents, or brokers. The reason for this apparent inertia is said to be chiefly on account of the interests concerned not being ready for business, yet at the same time there is an underlying current which people are watching closely.

The Chase Fog Whistle Machine Co. have orders for their automatic whistle for the boats building in Buffalo and Cleveland and are constructing many others for different ports this company is also doing good business in general repair work. It is possible that in the course of time they will take up the business of pipe fitting, plumbing and general machinery work and engineers' supplies.

We wish to contradict the report that has now gone the rounds of exchanges that the Globe Iron Works Co. will not be able to complete the new boat building for Ira H. Owen. The facts are as we stated three weeks ago that the steamer will be finished by August 1, and nothing rushed about her either except the usual hum which is characteristic of the Globe Iron Works shipyard.

The ore merchants and vessel owners are interested in the report that the Cleveland & Pittsburg railway company will make extensive improvements on its docks before the opening of navigation. General Manager McCreary and General Superintendent Taylor were in the city Tuesday in consultation with General Agent Smith and other railroad men. It is proposed to spend $800,000 in enlarging the docks and placing in new machinery. It is very probable that the work will be done.

The Cleveland Shipbuilding Co. is now prepared to take contracts for two more steamboats, inasmuch as the first of the Cleveland Iron Mining company's boats will be ready to launch in thirty days and the other very soon afterward. This company is building iron vessels and rush along the work very rapidly. The best of workmen are employed at this yard and those who have had vessels constructed express themselves as being well pleased with construction and machinery and speed, also carrying capacity.

The railroad companies here are again making promises regarding dock improvements and it is probable that something will be done before the opening of navigation toward improving Cleveland's facilities for handling ore and regaining a part of the business which Ashtabula and Fairport have taken from the city within three years past. The latest promise is from officers of the Valley railroad company, who say that before spring their company will be in a position to handle more than double as much ore as at present.

We are pleased to say to the readers of the MARINE RECORD, who understood that the last new boat launched for the Northern line has been named the North Star. It has occurred to many people that there is nothing in a name but we insist that there is. Last week we published an article giving details of the launch of the North Shore. Are there any suggestive qualities in a steel steamboat built by the Globe Iron Works Co. which would call for such a name (the North Shore) we understand that the Northern Line, under which cognomen these boats will trade, are Americanized. The managers of the line have concluded that the name applied by the MARINE RECORD two weeks since is much more appropriate than that under which the boat was launched, and this fine steel steamer will sail out of this port under the name of the North Star. We congratulate the managers of the line on the common sense that induced this change of nomenclature.

BUFFALO, N. Y.

Special to the Marine Record.

At R. Mills & Co's shipyard there is being built for R. Mills & Co., and others, the same parties that own the Wyoming and R. Mills, a steamship 262 feet keel, 276 feet over all, 40 feet beam, 24 feet depth of hold. She will have a triple expansion engine 20 and 32 and 52 by 45, building by H. G. Trout, King Iron Works, and two steel boilers of Scotch type, 11 feet 6 inches by 12 feet 2 inches each, to be allowed 160 pounds steam pressure, by M. Riter Eagle boiler works. She will also have the Providence windlass from the American ship windlass Co., also steam windlass capstans, from the same firm, and Williamson Bros' No. 117 worm geared steam steerer. She is ceiled, has her deck frames partly in place, all the plank is on her bottom and she is being calked; the plank on her sides is being put on rapidly. She is exceptionally strong built, has an upper steel cord 9 by $\frac{3}{4}$, steel shelf attached to same, 30 by $\frac{5}{8}$, lower steel cord 15 by $\frac{3}{4}$, diagonal steel strapping all over outside $4\frac{1}{2}$ by 9-16, steel plates on each side of the main keelson from stem to stern post $18\frac{1}{2}$ by $\frac{3}{4}$. She is edge boltedinside all the way up and square fastened with $\frac{7}{8}$ bolts and 9 inch spikes, and it is calculated to make her as strong as it is possible to build a vessel of wood and iron. Her cabins, officer's rooms etc, will be fitted up with the best and most modern furniture and fittings. She is to be launched in April.

At R. Mills & Co's., shipyard the steamer Badger State is in dock receiving new wooden arches, plank sheare rail, bulwarks, fenders and deck calking, at a cost of about $15,000. The steamship John B. Lyon was in dock for calking all over, the steamship Lycoming for calking, and repairs to her arches. The steamship T. W. Palmer, now Samoa, was docked and received repairs to damage done in collision with the steamship Gladstone, amounting to some $6000; the steamship A. P. Wright was in dock for repairs to her stern bearing, shoe and new buckets to her wheel, the steamer Cuba received two new boilers and repairs to her upper works. She will go in dock later for a new wheel; the steamship Wyoming is having her ceiling calked, the steamship Robert Mills her deck calked, the steamer Buffalo is in dock for a new wheel and stern pipe and her shaft straightened.

J. S. Dunham, of Chicago, was in Buffalo last Thursday. He was on his way to Troy and New York.

The firm of M. Riter, Eagle boiler works, have all the work they can handle, with a force of 125 men who are making considerable over time, and they have been compelled to refuse considerable work which they could not possibly get done at the time required. They are building two fire box marine boilers 9 feet 6 inches diameter, 14 feet long, each, for a steamship building at F. W. Wheeler's shipyard, West Bay City. Two Scotch type marine boilers 11 feet 6 inches diameter, 12 feet 2 inches long, to carry 160 pounds steam, for the steamship building at R. Mills & Co's shipyard. Two Scotch type boilers 11 feet 6 inches by 13 feet to carry 150 pounds steam, one fire box marine boiler 9 feet 6 inches by 16 feet, to carry 115 pounds steam, one upright marine boiler 3 feet diameter, 6 feet high, and one upright marine boiler 3 feet 6 inches diameter, 6 feet 6 inches high, all for James Davidson, West Bay City. Two fire box marine boilers 7 feet 6 inches diameter 14 feet long each, for two tugs T. Maytham is building here. One Scotch type marine boiler 5 feet 6 inches by 7 feet, to carry 135 pounds steam, to be placed on the canal and lake steamboat company's canal steamer Venus. Two Scotch type marine boilers 6 feet 6 inches diameter, 10 feet long each, to carry 170 pounds steam for the Maumee river steamboat company, Toledo, O. Two tubular boilers 6 feet diameter, 16 feet long, for the C. J. Wells elevator. They are also arranging to build two boilers for the Watson elevator, the style and dimensions of which will be decided on in the near future. They are also doing all the necessary repairs on the boilers of the Union steamboat company's and Western Transportation Co's steamer laid up at this port.

L. W. Cheeney, superintendent of Maytham's tug line, and wife, left for New York Monday. They contemplate a visit to Europe.

The firm of Sutton Brothers are very busy building two 21 by 24 marine engines for T. Maytham's two new tugs; one 13 by 14 marine engine for Owens and Beck's new tug building by O'Grady & Maher; one 10 by 12 marine engine, and a 5 by 6 Scotch type boiler to be sent to Santiago, and placed on a steamer. They shipped on February 15th, a 11 by 12 marine engine for F A. Barnhart's new tug building at Massina, N. Y.

O'Grady & Maher are building for T. Maytham's tug line, two fine tugs 75 feet keel, 16 feet 10 inches beam, 10 feet hold, to be ready by May 1st.

E. L. Parish, shipchandler and sailmaker re-opened his sail and rigging loft on Monday, with a full complement of sailmakers and riggers, who will have their hands full to get ready the various orders on hand by the opening of navigation. E. L. P. has been doing good business at his store since the close of navigation, and has quite a number of sails and outfits stowed away in his extesive sail loft, some of which will require renewing and repairing. He has received the contract to fit out the new steel steamship building at the Union dry dock companys' yard for Kelderhouse Maytham, and others, also the contract for the outfit of the barge M. J. Wilcox, to re-convert her into a three mast schooner.

H. G. Trout, King Iron Works, is full of work, and is keeping employed 260 men. He is building for a steamship building by F. W. Wheeler, shipbuilder, West Bay City, a fore and aft compound engine, with cylinders 28 inches high pressure, 52 inches low pressure, 42 inches stroke. For the steel steamship building at the Union dry dock company's shipyard a fore and aft compound engine, 28 and 52 by 48. For the steamship building at R. Mills & Co's shipyard, a triple expansion engine 20 and 32 and 52 by 45. For a steamship building by James Davidson, ship builder, West Bay City, a fore and aft compound engine 22 and 40 by 40.

Three hundred and sixty-five of Trout's celebrated propeller wheels were sold during the year 1888, and for the month of January last, five more were sold than in January, 1888.

Captain Tom Burton, will be very proud indeed of the propeller Nebraska, when her overhauling and rebuilding is completed. She will be so much improved that if she could but receive a new name she would not be recognized as the Nebraska.

Howard H. Baker & Co., ship chandlers, 18 to 20 Terrace, have the contract to supply the new steel steamer at the Union dry dock, and the Mills & Co. steamer, with their anchors, chains, Providence steam windlasses and steam capstans, and Williamson Bros.' steam steerers complete. They are also furnishing the steamer W. B. Morley with new steam capstan, of the American ship windlass company's make, costing about $600.

Edwin B. Sintzenich, of Rochester, has contracted to place on the Western Transit company's steamer Syracuse, a balance valve, a counterpart of one he placed on the steamer Albany two seasons ago. The balance valve on the steamer Albany's engine, when carrying 115 pounds steam, relieves her main slide valve on high pressure cylinder 10 tons weight. It has proved highly successful on the Albany. It can be attached to any ordinary slide valve engine.

Captain Thomas Maytham has made the following appointments for his fleet: Northerner, Captain James Todd; Newburg, Captain Kiah; Waverly, Captain Murphy. Captain Gibson, one of the owners, will bring out the new boat being built at the Union docks.

WILLIAMS.

CHICAGO, ILL.

The Chicago River, Canal & Dock Co., of this city, has been incorporated to construct a canal between Lake Michigan and the north branch of Chicago River. The capital stock is $2,000,000. They will also construct and operate docks, piers and harbors in connection with it. The incorporators are Alfred Cowles, Jr., John C. Mason and Frank W. Nelson.

It is gratifying to learn that the top of the Washington street tunnel, at Chicago, is to be owered three feet, a sufficient depth to accommodate our largest vessels. C. T. Yerkes, the street railroad magnate, has decided to pay the cost of the improvement. Evidently the petition of the Lake Carriers' Association has had considerable influence in bringing about the desirable settlement.

A. H. Burley, city comptroller of Chicago, has unearthed from among the city archives, some old maps and records showing that fourteen miles of a strip of land running from six to thirty feet in width has been appropriated by property owners along the banks of the Chicago river, on both sides of the north branch, and as far as Bridgeport on the south branch. A certain railroad corporation is said to have helped itself most generously to the river for a considerable distance, and the city will bring suit to determine the ownership of a portion of this made land. Should the city succeed in establishing its right to this large tract of valuable property, several fine public docks and storage warehouses might be erected at different points on the river, and more clean and sightly embankments take the place of the present neglected and dilapidated looking structures which are an eyesore and disgrace to a large city; and in this connection it would be well to notice that the owners or occupants of a wharf or dock is compelled, according to the federal law, to use reasonable care, and to inform themselves of the condition of their structures, for should there be any injury to vessel property through a defect or obstruction, such as iron bolts sticking out or the carrying away of insecure mooring posts, or from any cause which the owner of the dock ought to have guarded against and had not done so, then he renders himself liable for the amount of damage done to the vessel laying, discharging, or loading at his dock; at least such has been the decision of the judges on several occasions where litigation was resorted to.

MT. CLEMENS.

Special to the Marine Record.

Captain William Dulac is building a new steam yacht at his yard, with dimensions as follows: keel 48 feet, beam 11 feet, depth of hold 4 feet, over all 53 feet. She is made of the best of oak and is a handsome model. She will be used as a pleasure boat and also do some towing. The Eagle Iron Works, of Detroit, will build her engine and boiler. Her engine is 10x12 stroke and high pressure, and her boiler is 5 diameter by 6 feet long, made of best of steel. She will be ready for spring work.

Mr. Joseph Longsbay & Co., owners of the steambarge Sakie Shepard, has given a contract to the Eagle Iron Works, of Detroit, for a new boiler for their boat; diameter: $6\frac{1}{2}$x12 feet. It is to be made of $\frac{3}{8}$ steel, the best, and well braced; price $2,000 put in the boat.

Tonawanda barge line is making minor repairs on their tow barges at Dulac shipyard.

The Jewett is getting all new bulwarks and through fastenings and her top sides calked.

LECROIX.

SAULT STE. MARIE.

Engineers are engaged in the survey of the approach to the Sault Canadian canal.

The recent extreme cold weather has thickened the ice on the Sault river. The ice is made more solid owing to light snow with which it is covered. It is now from 18 to 20 inches thick in Mud Lake, with prospects of increasing. Last year at this time it was two and a half feet in thickness.

The present stage of water in the Sault canal is about six inches lower than it was last summer. The mean depth of water, as given by official figures taken at a point above the canal, shows that for the month of January, 1889, as compared with the same month in 1888, it has increased four-tenths of a foot; a very pleasing statement for all vessel owners and shippers.

MARITIME LAW.

ENGLISH ADMIRALTY LAW—AS TO MARITIME LIEN FOR PERSONAL INJURIES.

ST. CATHERINES, ONT. February 15.

To the Editor of the Marine Record.

Dear Sir—In the interesting case of the Egyptian Monarch, reported in your issue of the 17th of January last, which I have been shown by my friend Captain J. McMaugh, I find it laid down that "there is no lien for personal injuries received upon an English vessel within the body of an English county." The learned judge who decided the case, refers to the public opinion, reported in 2 Hogg. Ad 389, as establishing, which it undoubtedly does, that the high court of admiralty at that time (A. D. 1832,) had no jurisdiction over claims for damage arising within the body of a county. That restriction was, however, removed by subsequent statutes, 3 and 4 Vict, c. 65 (A. D. 1840) which declared that the courts should have jurisdiction over claims for damage received by any ship, whether within the body of a county or on the high seas, and in A. D. 1861, the act, 24 Vict. c. 10, enabled the court to entertain any claim for damage done by any ship. The learned judge refers to the latter statute, but states that it has been held that the word damage in that statute is solely applicable to mischief done to property.

The public opinion was a cause of damage by collision in the river Humber 20 miles from the main sea, and decides nothing further than that the collision having occurred within the body of a county and not on the high seas, the court could not exercise jurisdiction, and such was then undoubtedly the law of England. It determines nothing as to the jurisdiction over cases of personal injuries as distinguished from injuries to property. After the act of 1863, above referred to, the case of the Sylph was tried in the high court of admiralty before Sir Robert Phillimore, (as reported in L. R. II A. D. and Ec. p 24).

A diver while engaged in diving in the river Mersey, was caught by the paddle wheel of a steamer and suffered considerable injury, for which he instituted a cause of damage against the ship, alleging that the accident was the result of her negligent navigation. It was expressly held that under the 7th section of the act of 1861, the court had jurisdiction to entertain a cause in rem, for personal injuries done by a ship.

Again, in the Beta, (L. R. 2 P. C. 447), the judicial committee of the privy council, the then ultimate court of appeal from the high court of admiralty, sustained a similar judgment, holding that the court had jurisdiction over the claim of the mate on board the Xiste for personal injuries sustained by him in a collision between his vessel and the Beta, occasioned by the fault of the latter vessel.

In the Egyptian Monarch, the facts of the case are hardly distinguishable from those in the Sylph. In each case the injury was done to the person of the libellant by a part of the ship, through the negligence of those in charge.

The cases of Smith v. Brown (L. R. 6. 2. B. 728) and the Vera Cruz, L. R. 10 App. Cas. 59) are of a wholly different kind from that under discussion. The claims in those cases, according to the law of England, could not have been preferred either at common law, or in admiralty, but for the statute, commonly known as Lord Campbell's act, under which for the first time, compensation was given to the family of a person negligently killed, not for the injury sustained by the victim, but for the loss resulting to his family, from his death. The reasoning on which it was ultimately, after great conflict of judicial opinion, decided that claims of that kind could not be prosecuted in admiralty, has no bearing on such cases as the present, where the suit is brought by the person injured for the damage sustained by him. No doubt there are opinions expressed by some of the judges in those cases in favor of the view that damage means only damage to property, but the cases of the Sylph and the Beta were not overruled and must still be considered as declaring the law of England on this point. The law involved in this case is of considerable interest to Canadian vessel owners, and I have therefore ventured to comment upon it. Faithfully yours,

R. GREGORY COX, Proctor in Admiralty.

A case in point is that which follows, and being one one of especial interest we have appended it to our correspondent's letter. The argument in this case, which has gone through both county and admiralty courts, is as follows:

ARGUMENT.

Of the six reasons assigned by the defendants in their motion for a non suit, and which the court allowed, the first is that there was no evidence of defendants' negligence, and as the other reasons raise the question of fellow servant we discuss under this head the defendands' proposition, as maintained in the court below, that there was no evidence of the captain's negligence in the case that we proved. Of course, if there was any evidence to warrant a reasonable inference of negligence, the other reasons assigned for the motion not prevailing, it should have been submitted to the jury.

What then was our evidence of negligence? On pages 6, 15, 35, 38 42, of the Appendix, it will be found that the captain was in charge of the navigation of the boat in its voyage from Pittsburgh to New Orleans; on pages 33, 38, that at the time of the injury he was personally directing the crew and managing the operation of "swinging out" into the river; on page 17, that the boat's tow was a very large one, consisting of 18 loaded coal boats and 2 barges, being an average of 20,000 bushels coal each, and constituting an enormously heavy tow; that this weight in the current of the river the steamboat's power was unable to withstand, and that the fleet constantly tended down the river with the current; that the line on which they were swinging out was found to be foul, so that it was impossible to pay it out as the fleet accompanied the current; on pages 39, 33, that notice of this condition of the line was immediately given to the captain by the mate who was paying it out; on page 34, that it could then have been cast off or cut with but little danger to any one or to anything, but instead of directing this to be done, the captain permitted the pressure on the line to increase for a full minute; then, when it was strained to near the breaking point, and in a highly dangerous conditica (page 34), he ordered the plaintiff into the perilous service of casting off or cutting this line, in which he was injured, without warning him of the condition of the line or of his peril, and when the plaintiff was ignorant of it (pp 33, 34, 49,), and this. although the plaintiff was within shouting distance.

Now we submit that this evidence would have warranted the jury in finding two negligent acts, to wit:

1. In not ordering the line cast off or cut immediately on its being brought to the captain's knowledge that the line was foul and could not be payed out.

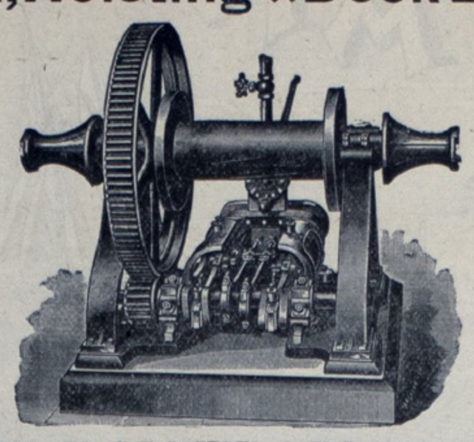
2. In commanding the plaintiff, whose duty was to obey without question, into a position of unusual danger without notice of his peril.

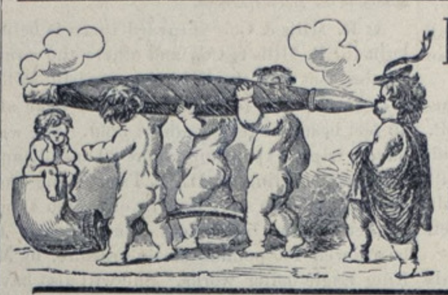
The second reason assigned for the nonsuit was, that the captain of the boat was a fellow servant of the plaintiff, the deck hand.

We know of no case where this court has held the captain of a vessel to be a fellow-servant of his crew, so as to raise the rule as to fellow-servants in favor of the owners against any of the crew injured through his negligence. In the absence of such decision we earnestly and respectfully suggest that there is involved in such a case as this a question of public policy. In no other occupation is it customary to delegate to an agent such absolute authority over men and property as is constantly donein the business of navigation to the mastar or captain of vessels. In addition to the care of valuable property he has therewith also entrusted to him the safety of his crew. His orders out of port, be they never so rash and cruel, must be obeyed, under the discipline which the marine law says the safety of the ship and crew require. In admiralty his power has been held to extend over the property entrusted to him to the hypothecation of the ship itself. Doubtless the reason for this arose from the necessity of the circumstances, e. g., when far from home and in need of provisions. And the same reason fortifies our position here. The owners have placed ship, captain, crew and cargo quite out of their personal power and control. They have turned them over to their agent, the captain of the vessel. And does not the law make the owners liable for the acts of this agent from the very necessity of the situation? Public policy required in one case that the hypothecation of the vessel should be sustained: does it not equally require the owner's responsibility for their agent's negligence when, as here, the sailor, faithful to his duty, has been injured in the very act of obeying a cruel command, given, perhaps, by the captain for the purpose of curing his own previous negligence. To the defence: "This was one of the risks you assumed at the start; you enrolled as a deck-hand, knowing you would be under the control of the captain and not under the owner's personal control; if your injury resulted from the captain's negligence, that is not the fault of the owners," we answer that these owners can escape from no responsibility with which the law visits them by the mere act of remaining at home and delegating the management and control of the navigation of their ships to others. If they would be responsible, as proprietors, if present, for the negligent act, so they will be when absent. The law requires the master, or owners here, to provide safe and suitable machinery and place with which, and in which, the servant may work, and it also requires that these conditions shall continue. And this duty this court has lately said is "direct, personal and absolute." Lewis vs. Seifert, 116 Pa. St., 647.

Is, then, the captain of a steamboat, out o port and while it is navigated under his direction and control, the fellow-servant of the deck-hand whom he controls? Or, is he the vice-principal, representing the owners and adventurers of the vessel, who are not present, but who sent out this captain to discharge their duties as navigators and shipowners? But this, too, is a question of fact and for the jury, as decided by this court in Mullan vs. The Steamship Co., 78 Pa. St., 25, and in Haas vs. The Steamship Co, 88 Pa. St., 269.

[CONCLUDED ON PAGE 6.]

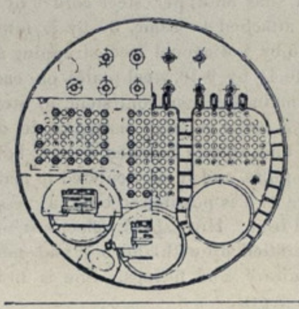
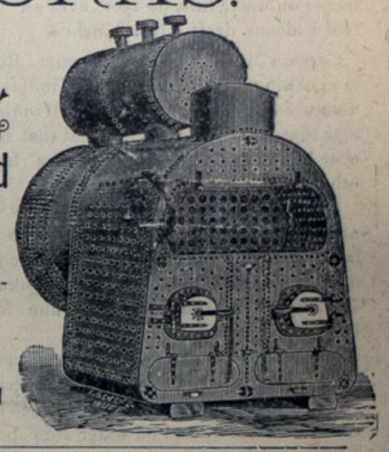
EAGLE IRON WORKS,
MANUFACTURERS OF
Duplex, Hoisting & Deck Engines
Specially adapted for Boat uses, Raising Sail, Hoisting Anchor, Pulling in Tow Line etc., etc.

Pumps with ten inch Barrels Connected to Gypsy Spools.
THE SIMPLEST AND BEST OFFERED—SATISFACTION GUARANTEED.
SUBMERGED FLUE BOILERS
Engines, Boilers and Pumps on Hand for Prompt Shipment
CIRCULARS AND PRICES ON APPLICATION.
Woodbridge, Fifth and Congress-sts, Detroit, Mich.


Forest City CIGAR STORE
THOMAS LIGGET, Prop'r.
MANUFACTURERS AND JOBBERS
CIGARS AND TOBACCOS.
259 PEARL STREET

Cleveland Block Co.,
MANUFACTURERS OF
Iron Tackle Blocks
TAKING THE PLACE OF WOODEN BLOCKS FOR ALL PURPOSES.
159 St., CLEVELAND, O

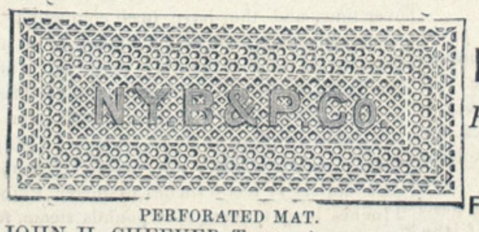
WARD AND JACKSON,
Shipsmith.
All Kind of Forgings, Bolts and Truss Rods for Building.
49 Main-st Cleveland

SAMUEL McCUTCHEON,
STEAMBOAT & ENGINEERS' SUPPLIES
Copper, Brass and Sheet Iron Manufactory.
IRON PIPE AND FITTINGS.
Agent for Davidson's Steam Pumps, Amazon Boiler Compound, and Orme Patent Safety and Relief Valve.
No. 18 Ohio Street, Buffalo, N. Y.

EAGLE BOILER WORKS.
M. RITER, PROPRIETOR,
Cor. Indiana and Mary St., Buffalo, N. Y.

The Latest Improved Hydraulic Machinery
USED IN ALL CLASSES OF WORK
Marine, Stationary, Portable, Locomotive and Upright Boilers; also, Salt Pans, Smoke Pipes and Heavy and Light Plate Iron Work of all Descriptions.
REPAIRS PROMPTLY ATTENDED TO.


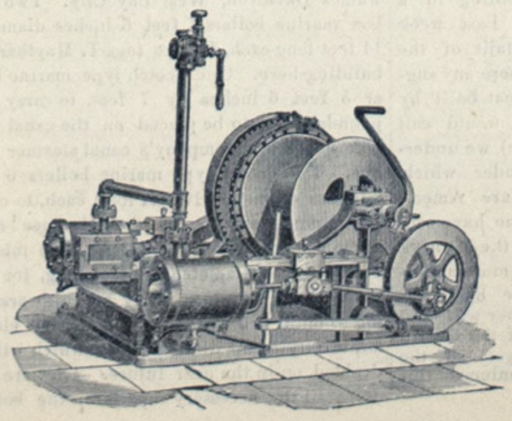
CORRUGATED FLUES FOR STEAM BOILERS.
ALL SIZES AND WITH FLANGED OR PLAIN ENDS.

Manufactured SOLELY IN THE UNITED STATES UNDER OUR OWN PATENTS AND THOSE OF
Samson Fox,
OF
Leeds, England.
Take 10th or 23d Street Ferries from New York to Greenpoint.
THE CONTINENTAL IRON WORKS,
THOS. F. ROWLAND, President.
WARREN E. HILL, CHAS. H. CORBETT, } Vice Presidents.
THOS. F. ROWLAND, JR., Treasurer.
BROOKLYN, NEW YORK.

THE NEW YORK BELTING AND PACKING COMPANY.


PERFORATED MAT.
Vulcanized Rubber Packing of Every Description.
RUBBER MATS AND STAIR-TREADS
For Halls, Floors, Decks and Companionways,
Rubber Belting, Packing and Hose.
FIRE TEST HOSE FOR STEAMBOATS & TUGS.

STEAM HOSE.
JOHN H. CHEEVER, Treas., J. D. CHEEVER, Dept. Treas.
WAREHOUSE: 15 PARK ROW, NEW YORK.
308 Chestnut st., Philadelphia. 52 and 54 Summer st., Boston. 203 Nicolet ave., Minneapolis. Cor. Wazee and 17th sts., Denver, Col. Post & Co., Cincinnati, O. Arnett & Rivers, 17 and 19 Main st., San Francisco. 151 Lake st., Chicago.
☞ European Branch: Pickhuben 5. Hamburg (Freihafengebist), Germany. W. H. H. Peck, Cleveland, Ohio.

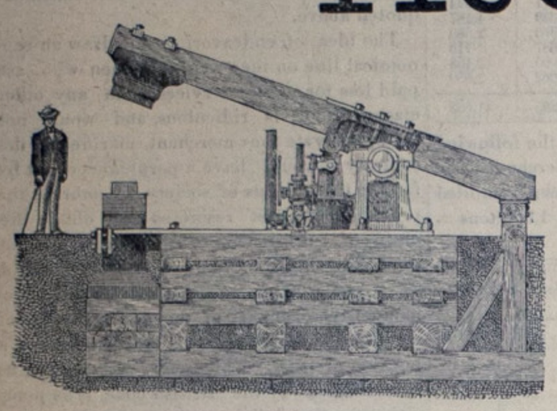
LIDGERWOOD MANUF'G COMPANY, 96 Liberty-st. New York.

MAKERS OF
HOISTING ENGINES.
FOR VESSELS AND DOCKS.
DECK HOISTS A SPECIALTY.
Engines & Boilers Combined FOR DOCK HOISTERS
ALSO, Superior Marine boilers
WHARF AND WORKS, SOUTH BROOKLYN, N. Y.

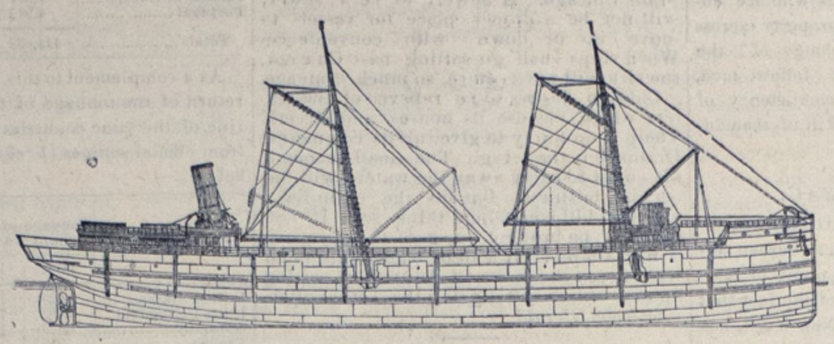
H. D. COFFINBERRY, PRES'T. ROBERT WALLACE, VICE PRES'T. WM. M. FITCH SEC'Y.

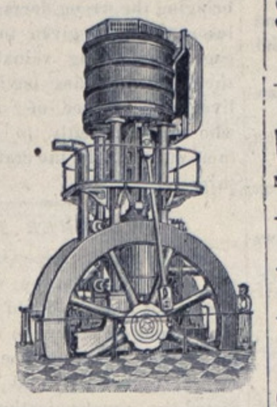
THE CLEVELAND SHIP-BUILDING COMPANY,

Detroit and Center Streets, Cleveland, Ohio,

IRON SHIPS.







Marine and Stationary

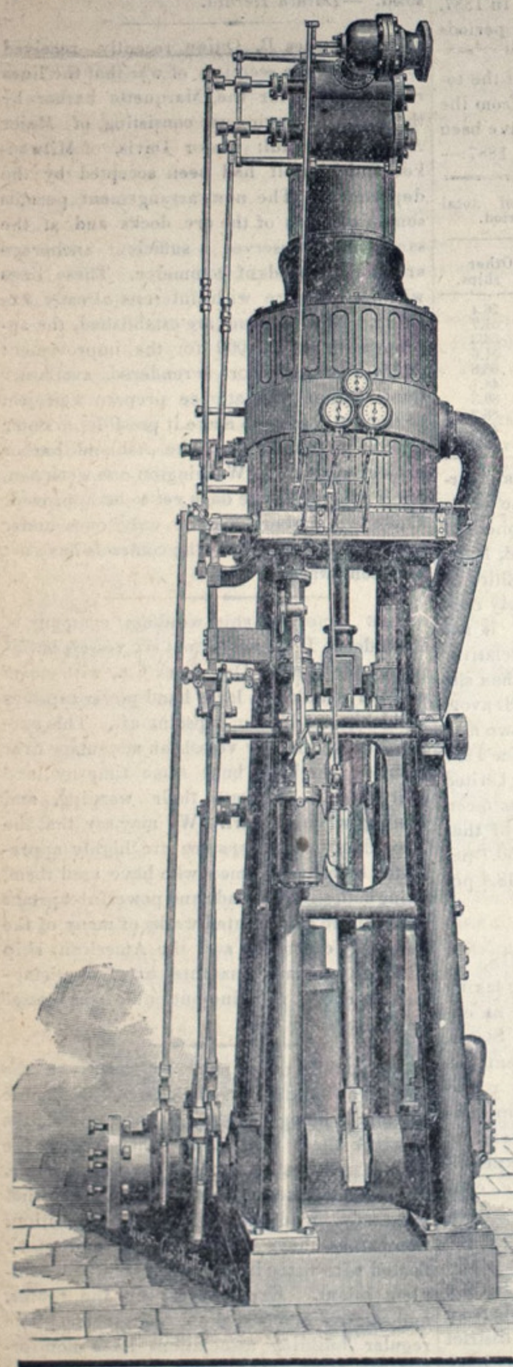
ENGINES AND BOILERS,

Blowing Engines and Steam Hammers,

MILL GEARING AND CASTINGS.

Repairing and Jobbing Solicited. Office on Viaduct.

PHŒNIX IRON WORKS.



Manufacturers

OF

STEEPLE, FORE AND AFT COMPOUND & TRIPLE EXPANSION

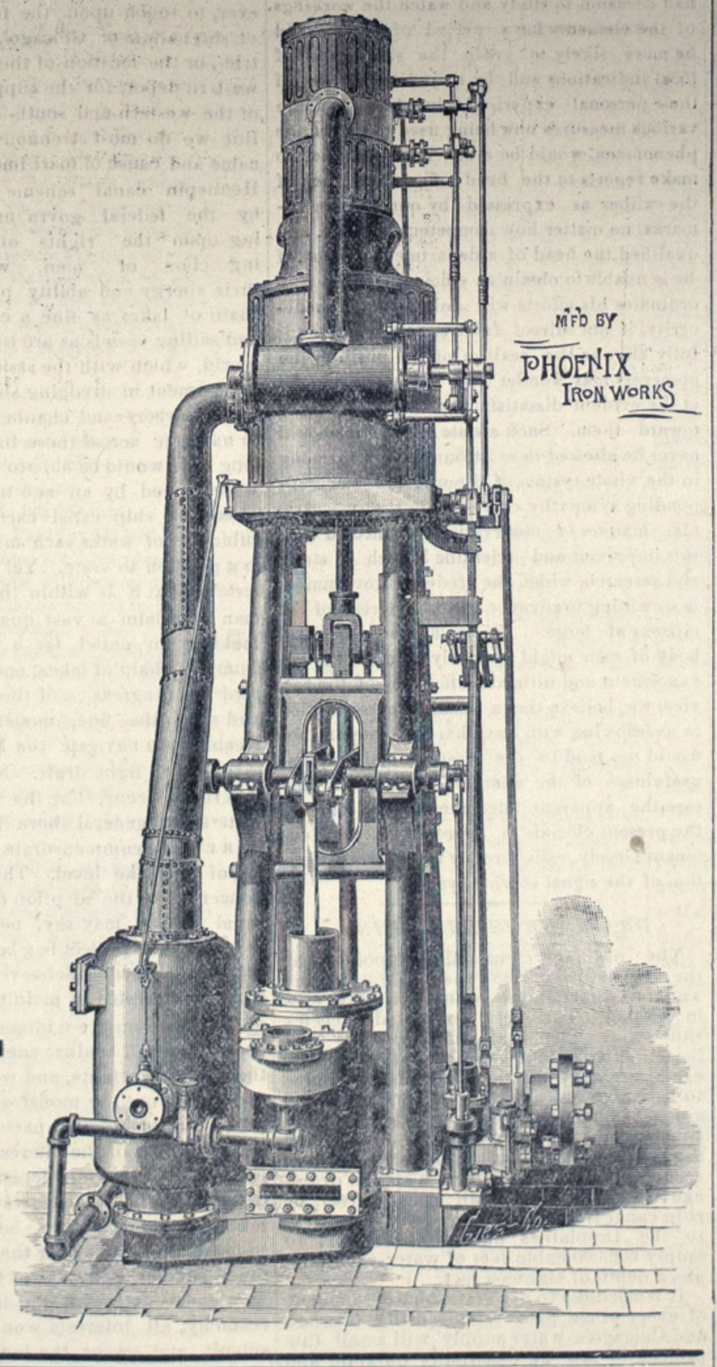
MARINE ENGINES,

WITH BOILERS

OF

MODERN DESIGN.

PORT HURON, MICH.



GEORGE SAAL'S SON.

Copper-smithing of all Kinds.

VESSEL WORK A SPECIALTY.

313, 315 and 317 Detroit-st. Telephone 1638. CLEVELAND, O.

DOWNIE **EUCALYPTUS** Boiler Scale Preventive and Remover.

PATENTED IN ALL THE PRINCIPAL COUNTRIES IN THE WORLD.

Manufactured by the DOWNIE B. I. P. Co.

204 MARKET-ST. SAN FRANCISCO. Branch Office, 4 Red Cross-st Liverpool

This extract from the leaves of the Eucalyptus tree, has been adopted and is now in use by most of the American SS lines, the U. S. Navy, and the largest stationary plants in the country. Send for pamphlet, containing letters from prominent engineers directions for use, price, etc.

DELAFIELD, MORGAN, KISSELL & CO., Agts., 74 HUDSON ST. NEW YORK.

VESSEL OWNERS AND AGENTS.

ESTES & WALKER,
Ship and Coal Brokers,
VESSEL AGENTS AND OWNERS.
Marine insurance and collections. References Moss and Third National Banks.
602½ Water street, SANDUSKY, O.

THOS. WILSON
MANAGING OWNER
Wilson's Transit Line.
Gen. Forwarder. Freight and Vessel Agent.
CLEVELAND, O.

MOORE, BARTOW AND GILCHRIST,
Ship Brokers and Agents,
No. 101 St. Clair Street, Room 15.
CLEVELAND, - OHIO.

PALMER & BENHAM,
Vessel Owners & Agents,
New Bank Building, corner of Superior and Bank Street, Cleveland, Ohio.

C. J. MAGILL,
VESSEL AGENT,
Vessels Chartered, Bought and Sold, Lake Freights and River Tow Bills Collected and promptly remitted.
94 Board of Trade, Chicago, Ill.

C. W. ELPHICKE. JAS. A. MYERS
C. W. ELPHICKE & CO.,
Vessel Agents
AND
MARINE UNDERWRITERS,
6 and 8 Sherman St.,
Rooms 10 and 11 Parker Block. CHICAGO, ILL.

ALEX McDOUGALL,
VESSEL AGENT AND BROKER,
Duluth.
Owners and masters of vessels wishing to get cargoes of grain from this port will do well to confer with me. Will be glad to furnish information in regard to cargoes, also in relation to docks, depth of water, etc., at **Duluth, Agate Bay** (new iron ore port), **Port Arthur, Washburn, Ashland,** and all points near the west end of Lake Superior. Good gangs of men furnished on short notice for trimming cargoes of grain, loading and unloading all kinds of freight.

JAMES T. ROSE,
Vessel Agent and Broker,
Marine Insurance,
Room 6, Exchange Building, Duluth, Minn.
I have an excellent gang of Trimmers this season, Captain Miller's old Crew.
Special Attention Paid to Chartering Vessels, and seeing that they get dispatch in Port.
CORRESPONDENCE SOLICITED.

H. J. WEBB & CO.,
Ship Brokers, Vessel Owners and Agents.
[ESTABLISHED IN 1856.]
H. J. WEBB & Co., will charter Vessels for Lake Trade, special attention given to Chartering Vessels in the Lake Superior Iron Ore Trade, both for the season and single trip,
ARCADE BUILDING, 101 ST. CLAIR ST.,
Room 27. Cleveland, Ohio.
TELEPHONE { Office, No. 338. Residence, No. 1328.

WARNER & BECKER,
Vessel Agents and Brokers,
ROOM 10,
Arcade B'ld., 101 St. Clair St.,
CLEVELAND, OHIO.

J. J. H. BROWN. EDWARD SMITH
BROWN & CO.,
Ship Brokers and Agents.
Special Attention given to Surveying, Appraising and Settling Marine Losses.
Exchange Building, 202 Main-st., Buffalo, N. Y.

River Machine Co.,
[Successor to G. R. GALE,]
171 River St., Cleveland, Ohio,
Are prepared to Manufacture and do General Repairing on Marine Engines and all other Machine Work.
We have also a full line of pulleys and shafting and are prepared to do all kinds of Stone quarry Work.
TEARE, WIGHT & CO.

ROBERT E. HILLS,
57 & 59 North Wells St., Chicago, Ill.
Telephone 3321.
STEAM FITTING AND HEATING,
Wrought Iron Pipe & Fittings
ENGINEER'S SUPPLIES.
General Jobbing Work Done Promptly.
Also, Proprietor of North Side Brass Works

WM. H. DeWITT,
Attorney and Proctor in Admiralty.
ROOM No. 6, BLACKSTONE BLOCK.
CLEVELAND, OHIO.

MULLEN & CO.,
DEALER IN
COAL.
Docks at Government Pier, Whiskey Island, and South Main Street Bridge.
Office, 81 Perkins Building, East Side of Main Street Bridge, CLEVELAND, OHIO.
Telephone No. 8.
BOATS COALED DAY OR NIGHT.

Marine Record.

Published Every Thursday at 144 Superior Street, (Leader Building) Cleveland, O.

A. A. POMEROY, EDITOR AND PUB

BRANCH OFFICE:
252 South Water Street, Chicago, Illinois.
THOMAS WILLIAMS, Associate Editor.

TERMS OF SUBSCRIPTION:
One year, postage paid.....$2.00
Six months, postage paid..... 1.00
Invariably in advance.

THE MARINE RECORD can be found for sale by the following news dealers:

CLEVELAND, O.—G. F. Bowman, corner of Pearl and Detroit Streets.

Evans & Van Epps, Superior street, Cleveland.

R. A. Castner, 254 Detroit street, Cleveland.

ASHTABULA HARBOR, O.—C. Large.

CHICAGO, ILL.—Joseph Gray, 9 West Randolph Street.

CHICAGO, ILL.—H. B. Hansen, 33 West Randolph Street.

BUFFALO, N. Y.—Miss McCabe, Elk Street, near Ohio.

DETROIT, MICH.—Connors' Marine News Co.

MILWAUKEE, WIS.—T. S. GRAY, CO. 196 Wisconsin St.

SAULT STE MARIE—J. P. Haller.

ASHTABULA HARBOR—O. M. Kahne.

ERIE, PA.—Reed Caughen, 816 State St.

DULUTH, MINN.—C. F. Johnson, 323 West Superior Street.

MARQUETTE, MICH.—J. A. Vannier.

ESCANABA, MICH.—Wm. Godley.

ESCANABA, MICH.—George Preston.

SARNIA, ONT.—D. McMasters.

OWEN SOUND, ONT.—J. Sharpe, Jr.

KINGSTON, ONT.—F. Nisbet, corner Brock and Wellington Streets.

Subscribers and others are respectfully invited to use the columns of the MARINE RECORD for the discussion of pertinent topics.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, O., FEBRUARY 21.

CLEVELAND VESSEL OWNERS' ASSN

ORGANIZED IN 1880.

[Membership, 1888.]

Eighty-three steamers, aggregating..... 93,186 tons
Eighty-eight sail and consort, aggregating 54,664 tons

Maintain shipping offices at Cleveland and Ashtabula Harbor. Regulates wages, protects crews, and takes cognizance of all matters in the interests of the members and of the lake commerce generally.

OFFICERS.

H. M. HANNA.....President
H. P. LILLIBRIDGE.....Vice President
B. L. PENNINGTON.....Secretary and Treasurer
H. D. GOULDER.....Counsel

MANAGERS OR ADVISORY BOARD.

H. M. Hanna, M. A. Bradley, P. G. Minch, H. P. Lillibridge, Geo. P. McKay, J. H. Palmer, Thos. Wilson, J. W. Moore, R. K. Winslow, W. D. Rees, James Corrigan, W. C. Richardson.

EXECUTIVE COMMITTEE.

H. M. Hanna, M. A. Bradley, Thos. Wilson, J. W. Moore, Geo. P. McKay.

SHIPPING MASTERS.

A. R. Rumsey, 98 dock, Cleveland; Fred Bennet, assistant, 98 dock, Cleveland; Wm. Reunick, Ashtabula Harbor.

MARINE RECORD—OFFICIAL PAPER.

SIDELIGHTS AND SCREENS.

In the fitting out of vessels in the spring of the year, too much attention can not be paid to the proper adjusting of the sidelight screens and the lights to be exhibited. Masters and owners would do well to remember that the majority of collisions happen through the errors resulting from seeing both lights, when one only ought to be in view, and similar instances having a momentous bearing on the rules of the road. The sidelights beside being of the best quality, should be tested to show that the starboard light has a shade or glass that will throw a clear deep green, over an arc of the horizon of ten points of the compass, and not as is frequently the case, a pale, washed out green, as it were showing over an arc of the horizon anywhere between five or fifteen points of the compass. The port light as a rule, even an inferior article, is generally more recognizable than either a white, or yellow light, or a green light, and as so much depends on the determining of the shade, vessels navigating ought to be always fitted with the very best appliances. One lawsuit would cost more than several good sidelight outfits, and in serious cases involve the vessel which has proved culpaple, having the proper lights. The question of screening them must be strictly attended to so that the green light shall not be seen to port, or the red to starboard, and yet allow both lights to be clearly in sight to anything end on. To obtain this view it is only necessary to place the light on a line parallel with the line of keel, and by having inboard screens projecting three feet forward of the light they will never show across the bow.

We have presumed that the shades of the lamps were cut to show 11$2\frac{1}{2}$°, no more or less, yet it is barely possible that sidelights are now being carried that have not been constructed according to this principle. Of course the majority of the lights and those constructed by reliable makers are perfectly correct, yet we cannot but think that there are still some old, inferior lights in use which are not quite up to the regulation standard either in constructon, size, or quality, and if it is added that they may be sometimes imperfectly placed on shipboard, we may readily see that collisions, bringing trouble, expense, and perhaps loss of life in their train, are sometimes courted unwittingly; under any circumstances there is no technical or legal excuse for the neglect to carry proper lights, and any vessel so offending the laws of the rules of the road is liable to pay the piper in all cases of carelessness, and we think she honestly deserves to be at the expense, or outlay caused by her collisions, or more correctly, by the incompetency of those on board. If instead of each party paying their own losses, as is frequently the case, the culpable vessel was mulcted heavy damages, we venture to say that there would be a perceptible decrease in the number, and the importance of the collisons of which we hear from time to time, and by bringing the wrong doers to justice a salutary lesson would be given to others who are engaged conducting valuable property across the waters, besides having charge of the lives of a number of their fellow men, who trust implicitly to the competency of their superiors in the craft or skill of seamanship.

WEATHER BUREAU.

Chief Signal Service Officer Greely has finally discovered that the weather bureau service is not what it should be in point of usefulness and efficiency. In view of the fact that the Herald bureau office, in New York, has several times flatly and successfully contradicted the prognostications emanating from his office, we think the reorganization of the national service is, beyond doubt, an absolute necessity unless the head of the service wishes to hear and see the general predictions issuing from the bureau made a burlesque of from one end of the country to the other. We are aware that Lieutenant Greely has expressed a desire to accept suggestions made to him by private persons and others toward increasing the usefulness of the daily weather reports, but the accuracy of the predictions must in any case lay largely in the hands of the staff of officers appointed by the chief of the service, and for this reason due attention ought to be paid to the merits and sympathies of the men engaged in the service. Persons who have all their lives been accustomed to run under an umbrella from a shower of rain, or long to linger around a store in a cold snap, or who are entirely unacquainted with the celestial objects, and ignorant of the number of miles in a degree of longitude, etc., would not, according to our way of thinking, make very acute or sensible observers, however careful they may be in tabulating the daily records. On the other hand, men who have had occasion to study and watch the workings of the elements for a period of years would be more likely to grasp the significance of local indications and by a judicious use of their personal experience, in addition to the various measures now being used to determine phenomena, would be much more qualified to make reports to the head office than men of the caliber as expressed by our former remarks, no matter how competent, suitable, and qualified the head of a department may be, if he is unable to obtain an efficient staff of subordinates his efforts will only result in mediocrity, if not direct failure; and while he is fully alive to the realism of his position the observers may wonder and express surprise at the evident dissatisfaction of his demeanor toward them. Such a state of affairs should never be allowed to exist, but perfect harmony in the whole system of reports, and a corresponding sympathy exercised in the most trivial matters of observation connected with this important and scientific branch of study and research, which the federal government is so willing to advance for the interests of the citizens at large. While a more practical body of men might possibly tend to the advancement and ultimate efficiency of the service, we believe that a class of persons filled to overflowing with weather-wise importance would not tend to the prestige and general usefulness of the weather bureau. In any case the apparent incompetency of some of the present officials as represented by Lieutenant Greely calls forcibly for a reorganization of the signal service system.

DRAINAGE IS THE THING.

The drainage commission appointed by the legislature of 1887 has made its report and recommendation to the assembly now in session. The bill submitted accepts the well advertised idea of new political subdivisions of the state, to be called drainage districts, and also attempts to base a practicable plan of procedure on any act of congress which may be passed to construct a water way between the lake and the Mississippi. The commission seeks to secure, under a general law, a special drainage district, which shall make a river or ship canal from the Chicago river southwest to the Desplaines and Illinois river, to empty 600,000 cubic feet of water each minute, a depth of eighteen feet.

It is needless to say that every proponent of every other plan of cleansing Chicago and Chicago's water supply will assail this project of law as essentially quixotic and elephantine, and it may be of interest to the reader to recall the fact that some citizens want a system of rendering for the sewage; some want a covered sewer or an aqueduct, others have gridironed the region east of Aurora with canals and dykes, giving a drainage from Lake View to the Desplaines; a similar canal from Pullman, and an enlargement of the Chicago river. The Hennepin canal has been looked upon by others as solving the entire problem.

The pumps at Bridgeport and the three millions spent by Chicago and re-imbursed by the state (at the time of the great fire) are testimonies of the inadequacy of human wit and human labor to cope with increasing practical questions where only the test of labor done can give true information.

The Herald is without interest in any particular theory, holding cautiously that no man knows exactly the best way to drain Chicago; but the Herald feels the pressure of the city's needs, and will cheerfully aid any common sense proceeding aiming at the right end. In the conflict of enthusiasts and interested parties where personal vanity or rancor, rather than the problem itself, is the minds of the controversialists, the spectator is tempted to turn in impatience from all the projects. Yet every taxpayer has a pecuniary stake in the city's great task, and already possesses the main facts.

To such an observer it appears that the matters of drainage and transportation should not be linked together. Congress will not drain Chicago. A sewer, to be a sewer, will not be a proper place for vessels to move up or down with convenience. When ships shall go sailing past Chicago, the city will not require so much drainage.

Chicago desires to be relieved of the waters which cleanse its houses and streets. There is no hurry to give up its commerce Drainage is the thing. The smallest possible outlet to carry away the waters will finish the business. But do the enthusiasts and the bill-compellers think so? If not, can they be brought to agree to a proposition so simple? It is to be feared this labor will exceed the moil and turmoil of setting up new shires and digging the actual ditch. —*Chicago Herald*

We are pleased to note that there is one paper published in Chicago that holds similar views to the MARINE RECORD, on the proposed Hennepin canal scheme, arguing that the proposed navigable waterway is pure and simple a project for local sewerage, and truthfully adds that when "ships go sailing past Chicago, the city will not require so much sewerage." Nor would it be quite so wealthy and prosperous as it has been in the past. The citizens of Chicago may think that as a large railroad centre there is no further commercial use for the tonnage frequenting the port, and that the city would be quite as well off without the inconvenience of being bridged while waiting the passage of vessels through the various draws. Yet ancient history as well as every day facts prove the contrary, and from the time that a port loses her share of tonnage her industries begin to stagnate, and instead of new and valuable enterprises springing up daily to increase her wealth and importance, it has been found that even the oldest capitalists look for fresh fields and pastures new, deserving in a measure the locality to which they owed, their financial prosperity. We do not propose, however, to touch upon the future prosperity, or stagnation of Chicago's immense industries, or the location of the city as a central western depot, for the supply and demand of the western and south-western country. But we do most strenuously object, in the name and cause of maritime interests, to the Hennepin canal scheme being assisted by the federal govrnement in trenching upon the rights of an enterprising class of men who have by their energy and ability put afloat on the chain of lakes as fine a class of steamers and sailing vessels as are to be found in the world, which with the assistance of the war department in dredging shoal places, deepening harbors and channels, are now able to navigate across these inland seas. How long they would be able to do so if the lakes were tapped by an enormous drain, open sewer, or ship canal carrying off 600,000 cubic feet of water each minute, we are not in a position to state. Yet we are morally certain that it is within the possiblities of man to reclaim a vast quantity of land by making an outlet for a volume of water from the chain of lakes, and by so doing retard the progression of the western world, and send the fine, modern built freight steamers, to navigate the lakes with a half cargo on a light draft. Not only would this result occur, but the wharves, breakwaters, and general shore line would undergo a change commensurate with the lowering of the lake level. The large interests concerned in the adoption of the Hennepin canal scheme, may say, never heed others, so long as the project is a benefit to us individually, hence it behooves those who are equally interested in maintaining the rights of commerce on these inland waters, to vigorously protest against such an invasion of their common rights, and with a unanimous voice point out the monstrous injury which is in contemplation by persons who are culpably careless of the interests of the various ports, and industries, dependent to a great extent on the present water level of the lakes. If dame nature herself undertook to make alterations over the area of waters by a sudden upheaval of land, or in any way consistent with the laws of natural economy, all interests would then have to submit, and accept the inevitable. But if artificial measures are to be brought into use, the question as affecting other important interests must be thoroughly ventilated, and a judicial and righteous conclusion arrived at. We are convinced that we are not straining at a gnat, in advocating the opposing of the Hennepin canal scheme, but that all marine interests ought to shoulder up, and lend their weight and assistance to our efforts to maintain the present lake level.

THE MERCANTILE NAVIES OF THE WORLD.

For the interesting information contained in the following tables, we are indebted to the Coal and Iron Trades Review, London. The increase of commerce during the ten years ending 1887 may be estimated from the following returns (in which 1 equals 1,000 tons) relative to the 10 chief maritime countries:—

Country.	Total Entrances and Clearances.		Increase in 1887.
	1878.	1887.	Amount.
United States	23,374	27,042	3,668
United Kingdom	51,595	65,161	13,566
Germany	11,427	16,313	4,892
France	20,970	29,749	5,839
Holland	6,227	8,171	1,944
Italy	8,152	12,339	4,187
Sweden	6,271	8,860	2,589
Norway	3,917	4,687	710
Russia (in Europe)	7,847	10,005	2,158
Portugal	4,912	6,962	2,050
Totals	144,832	186,295	41,663

As a complement to this table, the following return of the tonnage of the merchant marine of the same countries has been compiled from official sources (1 equal to 1,000 tons as before):—

Country.	Tonnage of Merchant Navies.		Incr'se.	Decr'se
	1878.	1887.	1887.	1887.
United States	1,629	1,015	.....	614
United Kingdom	6,492	7,296	804	.....
Germany	1,129	1,284	155	.....
France	976	993	17	.....
Holland	359	286	.....	73
Italy	1,029	945	.....	84
Sweden	536	500	.....	36
Norway	1,526	1,524	.....	2
Russia (in Europe)	382	492	110	.....
Portugal	75	80	5	.....
Totals	14,133	14,345		

The following figures show the tonnage of the steam merchant navies of different countries in 1878 and 1887, with amount of increase in the latter year (1 equal to 1,000 tons):—

Country.	Tonnage of Steam Merchant Navies.		Increase in 1887.
	1878.	1887.	
United States	170	176	6
United Kingdom	2,313	4,081	1,768
Germany	179	454	275
France	246	500	254
Holland	59	108	49
Italy	63	144	81
Sweden	82	114	32
Norway	52	113	61
Russia (in Europe)	110	130	20
Portugal	.....	.....	.....
Total	3,274	5,820	

Converting the above steam tonnage into sailing tonnage by multiplying the totals by three, it results that the total sailing tonnage efficiency of the merchant navies of the ten countries tabulated amounted to 20,681,000 tons in 1878 and to 25,983,000 tons in 1887, the difference between the two periods amounting to 5,302,000 tons.

The following are the percentages of the total tonnage entering and clearing from the ports of different countries that have been carried in British and other bottoms in 1887:—

Country.	Proportions of total tonnage carried.	
	British ships.	Other ships.
United States	73.6	26.4
United Kingdom	48.3	51.7
Russia (in Europe)	41.7	58.3
France	48.4	51.6
Italy	34.2	65.8
Germany	51.9	48.1
Holland	19.7	80.3
Sweden	13.8	86.2
Norway	56.6	43.4
Portugal	50.7	49.3

From this it appears that Great Britain carries not only about three-fourths of the whole of her immense commerce, but about one-half of that of the United States, Holland, Italy, Russia, and Portugal, more than one-third of that of France and Germany, and nearly one-fifth of that of Sweden. And what is not less notable, Great Britain is carrying relatively more of the trade of the world than she did ten years ago, in spite of the endeavors of foreign countries to promote their own marine by subsidies and otherwise. Since 1877 the proportion of the total trade of the United Kingdom carried in British bottoms has been increased from 67 5 to 73.6 per cent.; of that of the United States, from 43.1 to 50.7 per cent.; of that of Italy, from 30.9 to 48.4 per cent., etc.

THE EXPORT DUTY ON LOGS.

The lumbermen of the Dominion are taking a strong stand against the collection of an export duty on logs taken to the United States. A resolution to be sent to the government sets forth that the export trade in long, round timber is more advantageous than that in lumber, in that its preparation and delivery at the point of shipment involves the expenditure of more money in Canada than the conversion of the same timber into lumber does, as the waste in squaring is avoided and for other reasons. The resolution further states that the export duty does not impede the traffic in timber since imports to Ontario from the United States and Rainey river district far exceed the exports. From 1880 to 1888, imports were $4,319,850, while the exports were only $157,741. Export duty tends to produce irritation and bad feeling, and is likely to be followed by an export duty in the United States.

It is reported from Milwaukee that one of the vessel agencies there has been offered $1.05 on iron ore from Escanaba for the season.

NOTWITHSTANDING the fact that Great Britain is paying more in wages to seamen, and provides a better dietary system than all of the other nationalities mentioned above, with the exception of the United States, she has continued to increase her merchant marine, working in and taking away (we cannot say purloining), the very freight which ought to be carried under the national flag of the country shipping and receiving the commodities. The committee appointed by the national convention of the American Industrial and Shipping League, to enquire into the relative cost of sailing and victualling American and English vessels, would do well to take cognizance of the figures and the statement quoted above.

The idea of endeavoring to draw an economical line on the wages of men who are paid less for their services than any other class of labor is ridiculous, and would not tend to elevate the merchant marine; on the contrary it would have a pernicious effect by forcing the outcasts of society to embrace the profession as a last resort, so as to obtain the means of subsistence, while young men of promising abilities and good character would shun the slavish, uncomfortable, and unremunerative drudgery of the first few years of service absolutely required to fit them for a position of trust. The dietary system, even as administered by the British code, is so poor and mean that daily complaints, bordering on mutiny, is commonly the order of the day.

DULUTH will see during the year of grace 1889 a greater development in material prosperity than ever before. This is a fact self evident to any man who studies the growth of cities. Local causes are tending also toward wonderful advancement and development. During the year more than half a dozen great manufacturing enterprises will set the wheels of trade to running rapidly. The Duluth Iron & Steel company will turn out its first pig iron, the Minnesota car company will be manufacturing cars in three or four months, the Imperial Mill company will be grinding the best flour in the world, the Iron Bay manufacturing company will be, before the year is over, making machinery for all the mills of the west, Col. Glenn will be building boilers for the northwest, the Adams company will be turning out fine office furniture and many smaller concerns, whose aggregate capital will run into the hundreds of thousands, will be employing skilled labor and turning out their fidished product. If such a list does not give courage to the weakest heart then nothing would increase its faith in "Duluth the solid."—*Duluth Herald.*

CAPT. James B. Quinn recently received notice from the secretary of war that the lines recommended for the Marquette harbor by the board of engineers, consisting of Major Allen, of St. Paul; Major Davis, of Milwaukee, and himself had been accepted by the department. The new arrangement permits some extension of the ore docks and at the same time preserves a sufficient anchorage area for the needs of commerce. These lines will not interfere with interests already existing. Now the lines are established, the appropriation of $25,000 for the improvement of Marquette harbor is rendered available. Capt. Quinn will at once prepare a project of the work, so as to make it possible to enter upon it in the spring. The Ashland harbor project was sent to Washington one week ago, but it will take some days yet to be approved. These two harbors are the only ones under Capt. Quinn for which the contracts have not yet been awarded.

THE American ship windlass company of Providence R. I., will fit out six vessels building by the Detroit Dry Dock Co., with steam capstan windlasses, large hand power capstans amidships, and steam capstans aft. This outfit will give the new vessels an advantage over many of the boats built some time ago, and will greatly facilitate their warping, and hauling when in port. We may say that the Providence steam capstans are highly appreciated by all vessel men who have used them, being both strongly made, and powerful capstans without the complicated works of many of the patented capstans, and the American ship windlass company guarantee to give satisfaction on every machine put on board a vessel or wherever in use.

THE public mind must be roused on the subject of building associations. A deliberate attempt is being made by Minneapolis sharks to wreck these institutions wherein lies the poor man's best chance of owning a home. The scheme takes on several forms. The first is greedy, wild-cat, swindling competition. Companies have been formed and stock floated with flattering prospectuses with fraudulent intent. Expenses eat up the profits, and salaried officials skim the cream. The regular building associations have non-forfeitable stock. The rules of the wild-cat companies forfeit all payments upon the first relapse of an assessment, and are so arranged that an accidental lapse is highly probable. Other regulations are so framed that the inves

George Sanborn has sold to Captain H. M. Boyce a one-eighth interest in the schooner John B. Merrill, for $2,500. This does not include the cost of repairs now being made upon the Merrill.

LAKE CARRIERS' ASSOCIATION

TO CONSIDER AND TAKE ACTION UPON ALL GENERAL QUESTIONS RELATING TO THE NAVIGATION AND CARRYING BUSINESS OF THE GREAT LAKES AND THE WATERS TRIBUTARY THERETO, WITH THE INTENT TO IMPROVE THE CHARACTER OF THE SERVICE RENDERED TO THE PUBLIC TO PROTECT THE COMMON INTEREST OF LAKE CARRIERS AND PROMOTE THEIR GENERAL WELFARE.

BOARD OF MANAGERS, 1888.

THOMAS MARTIN	Oswego, N. Y.
JAMES ASH	Buffalo, N. Y.
W. BULLARD	Buffalo, N. Y.
S. D. CALLWELL, President	Buffalo, N. Y.
E. T. EVANS	Buffalo, N. Y.
W. P. HENRY	Buffalo, N. Y.
P. P. MILLER	Buffalo, N. Y.
FRANK J. FIRTH, Vice President	Erie, Pa.
M. A. BRADLEY	Cleveland, O.
H. M. HANNA	Cleveland, O.
THOMAS WILSON, Vice President	Cleveland, O.
A. W. COLTON	Toledo, O.
P. P. MILLER, Vice President	Buffalo, N. Y.
EBEN WARD	Detroit, Mich.
JAMES DAVIDSON	Bay City, Mich.
JOS. AUSTRIAN	Chicago, Ill.
W. M. EGAN	Chicago, Ill.
IRA H. OWEN, Vice President	Chicago, Ill.
R. P. FITZGERALD	Milwaukee, Wis.
DAVID VANCE	Milwaukee, Wis.
ALEX MCDOUGALL	Duluth, Minn.
FREDERICK ALMY, Secretary	Buffalo, N. Y.
JAS. CAREY EVANS, Treasurer	Buffalo, N. Y.

MARINE RECORD—OFFICAL PAPER.

LAKE CARRIERS' ASSOCIATION.

So much talk has been occasioned by the request of the Lake Carriers' Association for Captain Millen's resignation and the Captain's bold back talk, that the association feels called upon to state its case.

Captain Millen is stating freely that a chief cause of the disagreement between himself and the Lake Carriers' Association is his opposition to having the association represented at Washington by a paid attorney. Have you anything to say on that subject, was asked of Secretary Almy yesterday.

"Yes," said Mr. Almy. "The Lake Carriers' Association is represented at Washington by Mr. R. C. Parsons, a Cleveland lawyer, as its attorney, but as far as influencing legislation goes Mr. Parsons is doing nothing more than has been previously done by individual members of the association."

"Why is Mr. Parsons needed, then?"

"Because what is everyone's business is no one's business. Because as the representative of the Lake Carriers' Association he can concentrate its influence and speak with more weight than a single vessel owner."

"Why does not the association choose one of its own members to represent it?"

"It has been often done so, and when it has not it has often been unrepresented and the vessel interests of the great lakes have suffered in consequence."

"Who has represented you previously at Washington?"

"Mr. J. T. Whiting, of the Lake Superior Transit Co., has acted for us at Washington, as Mr. Parsons is now doing, and Captain Millen has both approved and contributed. The time spent at Washington by Mr. Whiting was taken from the service of the Lake Superior Transit Co., and it was not fair to that company to oblige it to contribute so largely to matters of common interest to all the lake companies."

"Why could not the senators and representatives in Washington sufficiently represent the association?"

"They can to some extent, and they have always been informed of measures recommended by the association, but the Lake Carriers' Association, is not a local institution and its interests cover many states besides New York. The enormous traffic over the the great lakes passes from one to another through narrow waterways, and all these passages, from both Lake Superior and Lake Michigan to Lake Huron, and from Lake Huron to Lake Erie, lie wholly within the state of Michigan."

"Then why can not the state of Michigan attend to improvements in its own waterways?"

"Because they concern other lake states quite as much or more than the Suez canal, with its smaller traffic, concerns countries distant from it. According to the government system of bookkeeping, so to speak, the state of Michigan is credited with all appropriations for improvements in the Detroit and St. Mary's river, the Mackinaw Straits, and the lakes generally, and the sum total credited to Michigan in this way so greatly exceeds that for any other state that it is always difficult to secure attention for additional improvements within its limits. It sometimes happens also that the senators and representatives from Michigan entirely fail to appreciate the importance of the needs of the lake commerce."

"How can your attorney at Washington remedy this?"

"He can confer with the different committees of congress, and explain to them the importance and necessity of measures recommended by the association. He can draft bills to be presented, and by consulting the different government bureaus, can inform us on many matters of interest to us. Individual inertia and the disposition always to let some one else undertake a public service has often led to a failure to present important matters properly at Washington. It is Mr. Parson's duty to watch and promote our interests, and his influence as a representative of the associated lake interests is often beneficial and in no way properly open to objection. I think Captain Millen would have said the same a year ago, before he became interested in the Detroit bridge scheme."

"Captain Millen says also that the board of managers of the Lake Carriers' Association has declared by its action that there shall not be any difference of opinion among its members. This does not state the case fairly. Captain Millen was asked to resign because he appeared before the senate committee at Washington and used his influence as a vice president of the Lake Carriers' Association to oppose the policy upon which the association had resolved by a unanimous vote.

SECRETARY.

FORE AND AFT.

The barge T. H. Orton is lying full of water in Sarnia bay.

The steamer C. S. Parnell has been chartered to load corn at Chicago for Buffalo at three cents

Captain J. E. Cornwall will succeed Captain Henry Leisk as master of the steamer Simon Langell.

Captain George McCurdy is to be general manager of the insurance company of North America at Chicago, which is to go into the lake business.

The tests of the new steel gunboat, Yorktown, have been satisfactory in every way, and it is believed she will be at once accepted by the secretary of the navy.

It is stated in a telegram from St. Petersburg that Russia is about to put in practice an old law which forbids other than Russian vessels engaging in the Russian coasting taade.

According to the Green Bay Gazette, tamarack logs, which a few years since were considered worthless, now bring $10 per 1,000 feet for use in shipbuilding, if the timber is good and sound.

Captaia Jerry Coleman, long a schooner master, will next season try his hand on a steamer. He is to command the new boat being built by Langell at St. Clair, in which O. T. Filnt is said to be interested.

Captain J. C. Gilchrist has bought Captain Thomas Maytham's third interest in the steamer Oregon. The Gilchrist syndicate now own the whole of her. They have also bought a third of the schooner H. D. Alverson, which gives them full possession.

Captain McGowan has just completed the rebuild of the schooner Atmosphore at Port Huron at a cost of $6,000. She has been made a three-and-after, and will rate A2. The widow of the late Captain Stalker of Toledo is part owner of her.

A change has been made in the recent order-in-council which increases the export duty on logs from $2 to $3 per 1,000 feet, providing that logs cut and ready for shipment at the date of the passage of the order may be shipped at the old rate, viz., $2.

Captain McGowan has just got through rebuilding the schooner Atmosphere, at Port Huron, at a cost of $6,000. She has been made a three-and-after, and will rate A2. The widow of the late Malcolm Stalker, of Toledo, is part owner of the Atmosphere.

Cornelius H. Delamater, founder of the Delamater Iron Works, died of pneumonia, February 7, 7:45 p. m., at his residence, 424 West Twentieth street. Mr. Delamater was born at Rhinebeck, August 30, 1821, and came to New York as a boy of fourteen to earn his living.

The old steambarge Michigan, which was almost entirely destroyed by fire last fall, off Sandusky, and which was towed to Sandusky while burning, was sold yesterday at public sale to Clark Center for $500. Very litle of the hull is left, and the machinery is, of course, in bad shape.

The earliest known lighthouse in the United States is that which once stood on Little Brewster Island, north side of the main entrance to Boston Habor. It was built in 1716, and rebuilt in 1859. Beaver Tail, the light so well known to visitors of Narragansett Pier and Newport, was established in 1740.—*The Engineer.*

The barge Ben Harrison, recently purchased by Hollister & Co., of Tonawanda, N. Y., for $28,000, has been launched from the shipyard of Captain William Dulac, at Mt. Clemens, Mich. Her keel length is 178 feet; length over all, 185 feet; beam, 32 feet; depth of hold, 12 feet. She will carry three spars. The hull is steel strapped. Estimated carrying capacity, 800,000 feet of lumber, or 1,000 tons of iron ore.

It is now known positively that the sale of the Chapin mine includes the company's steamers Progress and D. W. Rust. The change of ownership will not affect the contract entered into with the Wolf & Davidson steamship company, last December, for the delivery of 100,000 tons of ore at Lake Erie ports from Escanaba, during the coming season. According to the terms of the transfer all existing contracts must be carried out.

Captain George E. Merritt will command the steamer Escanaba, with P. J. Navaugh as chief engineer; Captain William Chamberlain the steamer Argonaut, with Mr. Tilden as chief engineer; Captain J. W. Brion the steamer Rhoda Emily, with W. J. Burns as chief engineer; Captain J. Q. Owen the steamer Ira H. Owen, with Charles B. Calder as chief engineer; Captain Byron H. Armstrong the steamer Soo City, with T. J. Rees as chief engineer; Captain J. B. Mondor the steamer Minnie R., with A. B. La Franier as chief engineer.

AROUND THE LAKES.

[CONTINUED FROM FIRST PAGE].

PORT HURON, MICH.

Special to the Marine Record.

Penoyer Brothers have purchased the barges Lillie May and R. J. Carney. The steam barge Torrant will tow them over next season.

The county clerk has received for filing the articles increasing the capital stock of the Marine Transportation Co., of Marine City, from $50,000 to $100,000.

The propeller Westford has gone into the Wolverine dry dock for extensive repairs. Captain Dave Cleary will superintend the work.

Woods, Jenks, and Co. have purchased the powerful steam barge Simon Langell from Simon Langell and others of St. Clair Captain Alex Sinclair will probably command her.

The schooner Aurora is receiving new ceiling, decks, deck beams, railing, covering board, and other repairs at Sarnia.

The schooner Hercules is receiving a good rebuild; new decks, deck beams, ceiling, railing and other repairs at a cost of $7,000, at Sarnia.

The work on the tug Porter is getting along nicely at Dunford & Alverson's dry dock.

James Myers, the hustling vessel broker of Elphicke & Myers, of Chicago, is in this city on business.

St. Clair river is blocked with ice up to the lower end of the city.

Captain L. L. Slyfield has sold his schooner, Mineral State, to Captain Somerville and others of Cleveland.

Rennels and others, of this city, have purchased the barge Favorite from the H. M. Loud & Sons' Lumber Co., of Oseoda; the steam barge Cleveland will tow her with the Stewart and Tyson.

Carpenter, the coal dealer, has sold his steamer, E. M. Foster, to Detroit parties, at private terms.

Miss Susie V. O'Neil, sistsr of ex-mayor J. G. O'Neil, and James J. Lynn, the well known marine reporter, were married Thursday afternoon, at the St. Stephen church, by the Right Reverend Bishop Foley, of Detroit. Mr. and Mrs. Lynn left on the evening train for New York, Boston, and other eastern cities. The RECORD joins in with their many friends in wishing them a long and happy life.

Captain Dave Hutchinson, of the Stafford, and Will Hutchinson, of the Mecosta, returned home after two months visit with their father and mother at Brighton, Ontario.

D. E.

DETROIT, MICH.

Special to the Marine Record.

The new composite steamer Thomas W. Palmer, recently launched from the Wyandotte yard of the Detroit Drydock Co., will be commanded by George Stilphen. Although Captain Stilphen changes off on vessels he still keeps to the same name, his former command being named the Thomas W. Palmer. So as to avoid confusion of the names in the future. We ask our readers to notice that the name of the original Thomas W. Palmer is now changed to the Samoa, and her former name transferred to the new boat, owned by the Percheron Navigation Co., of this city.

A meeting will be held here on April 1 of the commission to investigate as to the advisability of bridging Detroit River. General Poe, Major Allen, and Major Adams have received their instructions in the premises.

Captain Homer Durand has bought a half interest in the steamer St. Paul for $20,000. He purposes to convert her into a double decker, with steel arches. The work will be done here. She was built at Marine City by Arnold in 1868, measures 662 tons, and rates A2.

Mr. J. T. Whiting, who has been looking out for the river and harbor bill in Congress for the Lake Carriers' Association, has given up all hopes of seeing it pass this session, and has come home to Detroit.

Captain Ed Becker, of the firm of Warner & Becker, Cleveland, was in the city Saturday.

MARINE CITY, MICH.

Special to the Marine Record.

The main deck beams will be placed in the new boat at Morley's yard this week.

The work of rebuilding the barge Ra wlson is being rapidly pushed ahead. She will be almost as good as new when she comes out in the spring.

OWEN SOUND, ONT.

We have been informed that the contract has been already signed for two more large steel steamships to be built in Owen Sound without delay. The Keewatin has just been launched.

A. C. M.

AT the second days meeting, in Washington, of the convention of the American shipping and industrial league, resolutions were adopted favoring the passage of the tonnage bill, which asks for an allowance from the government for United States built and owned vessels of 30 cents per ton for each thousand miles sailed or steamed; also, for favoring a spstem of coast defences; the rebuilding and equipment of a strong and efficient navy; the improvement of the harbors and rivers of the whole country; adequate compensation for carrying the mails and the passing of the navy reserve bill.

The machinery is being put into the new steamer which Captain John Monk is building at Sandusky, for Andrew Wherle, Jr.

A DIFFERENT VIEW.

WEST SUPERIOR, WIS., FEB. 5, 1889.

To the Editor of the Marine Record.

On the fourth page of your issue of January 31, is the following:

"'Figures don't tell the truth all the time. Take a single link of a ship's chain cable: it is oval, only there is a short bar, a stud, the sailors call it, joining the sides together.

"Now, the result of careful experiment shows that the addition of the stud adds one-quarter to the strength of the link. See 'Luce's Seamanship," page 282.

"Another rule, the result of equally careful and thorough experiment, shows that to take out the stud decreases the strength of the link only one-fifth. See Luce, page 283. Now if putting the stud in increases the strength of the link five-twentieths, and taking the stud out decreases the strength only four-twentieths, the difference is evidently a gain in strength, and yet the link is exactly as it was in the beginning. If now, it increases the strength of the link by one-twentieth to put in a stud and straightway take it out, why can we not go on increasing the strength of the link indefinitely by putting the stud in and taking it out, and repeating the operation? Luce's rules are accepted as infallible, and yet the conclusion arrived at does not look like common sense.'"

If the writer of the above had used a little of the "common sense" which he infers Luce lacked, he would not have fallen into the error which he did by saying that the link was increased five twentieths and decreased four-twentieths, when it really was increased five-twentieths and decreased only five-twenty-fifths. Now I contend that the position Luce takes is the correct one, for if we suppose the original link to be composed of twenty units of strength before the stud is added, and by adding the stud its strength is increased one-quarter, or five units, we have a link which shows twenty-five units of strength; then if we take the stud out again the strength of the link is decreased one-fifth, or just five units, leaving the link exactly the same strength as before—twenty units.

THE Maritime Reporter and Seaboard, a journal published in the city of New York, is the authority for stating that considerable commotion has been caused on the lakes (and no wonder) by the taking of a contract to carry coal from Cleveland to Lake Erie ports, at $1 25 per ton, adding that it is thought to be entirely too low, as the line that had the contract last year at the same rate showed a balance on the wrong side of the ledger. We decidedly protest against allowing the readers that journal may have in this locality taking on board any such figures as those quoted above; nor can we in any way determine how it was possible for that paper to make so material and geographical a blunder. The idea dawns upon us, however, that their all around maritime noter may have got mixed between coal and iron ore, and in his desire to locate the carriage of material made a dash at the former commodity as being probably more in demand at the present time. Yet if this surmise of ours is correct, what in the name of "seaboard and rivers" does he want to locate or bring Lake Superior down here; if it is not this he is after, what Lake Erie does he refer to?

The RECORD office will always be kept open for the convenience of those wishing to pay their subscriptions.

The president has approved the act extending the privileges of inland transportation in bond to the port of Sault Ste. Marie.

A million and a half of white fish were put into Lake Ontario the other day, from the Caledonia fish hatchery, and more are to follow.

I. H. Elwood, of Chicago, Ill., has given an order to Bristol, R. I, parties for a 130-foot iron steam yacht, to have quadruple expansion engines.

The construction of a new steam yacht will soon be begun by Captain Henry Johnston, to be in readiness at the opening of the summer business.

Captain Nic. Gunderson will command the schooner Lillie E. the coming season, and M. W. Kilton the schooner Sardinia. Captain Gus. Gunderson will command the schooner J. A. Holmes.

The ice-breaking tug, Merrick, has been put in commission between Fort Gratiot and Point Edward. She is in charge of Captain Chris Smith and engineer Egan.

NOVEL WAY OF RAISING A WRECK.

It has been said that every work of invention has its parallel in nature. But it would not be anticipated that the method of raising sunken steamers by forcing air into casks which have been secured to them would find such a parallel. Yet such has been the case on the Ohio river, where the steamer Robert B. Carson sank near Evansville, Ind., drowning thirty head of cattle that were confined on the lower deck. Efforts to pump the vessel out were not successful, and the boat was abandoned. A few days later, however, it was found to be floating, the fact being that the putrifying carcasses of the cattle had become inflated by the gases generated in putrefaction, and their buoyancy was sufficient to raise the steamer.

BRITISH SHIPBUILDING.

Shipbuilding returns, compiled by Lloyd's register, show that, at the end of the year 1888, there were four hundred and forty-five merchant steamers in course of constuction, of 811,468 tons. More than seven-eighths of the total were steamers, and steel forms the material for seven-eighths also. The work in hand at the end of last year was about 85 per cent more than at the end of 1887. As to the sizes of the steamers in course of construction it may be stated that at Belfast and Londonderry, the vessels average more than 3,000 tons each; on the Clyde they are over 2,000 tons each; on the Mersey they are smaller; on the Tees and at West Hartlepool they are above that size; and on the Tyne and Wear they are just about 2,000 tons each.

A gentleman from New Orleans says: About a month ago the steamer Natchez sunk on a reef in the lower Missisippi. She had the engines that were in the famous Natchez, that run the great race against the R. E. Lee. The Natchez was a large side wheeler and the last relic of the old time flyers.

This winter has been a hard one for killing boats; nine were either sunk or burnt inside of one month.

There are but six boats in the Orleans trade from Cincinnati run, and from St. Louis only three; but the Anchor line out of St. Louis run six as far as Natchez, Miss. This line has a monopoly out of St. Louis, but are well liked and run splendid boats well arranged to handle way freight. These boats have steam elevators to hoist freight out of the hold.

New Orleans has tug boats that would turn a harbor tug boatman on the lakes green with envy. Their size, of course, is greater than any harbor boat.

Great inconvenience results at Liverpool, England, from the sailors' strike, and only by means of scratch crews can ship owners, who refuse union terms, send vessels to sea. On the arrival of the Glasgow steamer Mastiff, the men left in a body, owing to the refusal of the terms demanded for voyages back to the Clyde. Mr. Stephen Williamson, M. P., at a meeting in Liverpool, expressed sympathy with the men on strike, saying it often struck him as marvelous how men could be induced to sign for a long voyago at 50 s. a month, out of which they had to support a wife and family.

The strike of seamen and firemen on the Clyde is extending, and bids fair to assume enormous dimensions. The quay laborers of Glasgow have expressed sympathy with the strikers, and have resolved to give them all the assistance in their power. The shipowners complain that the strikers are interfering with the men who remain at work, and a strong force of police has, in consequence, been posted at the various entrances to the harbor and along the quays.

CAPTAIN L. C. OWEN, of Vineyard Haven, Mass., has prepared and presented to the committee on commerce in Washington a chart of the Arctic Ocean, showing the location of the loss of every whaler that has been wrecked in this ocean. There have been seventy-six such losses, and fifty-eight of them were near Point Barrow. The chart was prepared at the request of the New Bedford board of trade and of certain San Francisco firms, mainly as an argument in favor of establishing a house of refuge at Point Harrow.

There has been considerable figuring on the steambarge M. M. Drake, which the underwriters want to dispose of. Their price is $60,000. It is learned that $55,000 cash has been refused for her. Reliable parties, who have carefully examined the boat, state that she has been thoroughly repaired, and that her machinery and boiler are in good shape.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a prescription which completely cured and saved him from death. And sufferer from this dreadful disease sending a self addressed stamped envelope to drofessre S. A. Lawrence, 212 East 9th st., New York will receive the receipt free of charge.

FOR SALE.

BARGE COL. BRACKET—She carries 260M feet of lumber, 420 tons of coal. Had $900 worth of repairs last season. Fit out good. Price $1,600. Mention this paper. ED. J. KENDALL, Port Huron.

FOR SALE.

BARGES LEADER AND JUNIPER, capacity 375,000 each. For price and terms inquire of N. MILLS & CO., Cleveland, Ohio.

FOR SALE.

HARBOR TUG for sale. Engine 18x20, boiler 5 feet 6 inches by 11 feet, and allowed 100 pounds of steam, and is A2, valued at $5,500 by Lloyd's register, but the owner will take $4,600 cash. For further particulars inquire at 113 Franklin avenue, Cleveland, O. CAPT. E. DAHLKE.

UNITED STATES ENGINEER OFFICE, Cleveland, O., Feb. 12, 1889.—Sealed separate proposals in duplicate, will be received at this office until 12 m., on Friday, March 15, 1889, and then opened, for dredging at the following harbors: At Monroe harbor, Mich.; at Toledo harbor, O.; at Port Clinton harbor, O.; at Sandusky harbor, O.; at Huron harbor, O.; at Black River harbor, O.; at Cleveland harbor, O.; at Fairport harbor, O.; at Ashtabula harbor, O. All information can be obtained at this office. The United States reserves the right to reject any or all proposals. Preferences will be given to materials and plant of domestic production or manufacture, conditions of quality and price (import duties included) being equal. The attention of bidders is invited to acts of Congress approved February 26, 1885, and February 23, 1887, vol. 23, page 332, and vol. 24, page 414, statutes at large. L. COOPER OVERMAN, Major of Engineers. feb 21-4

MARITIME LAW.

[CONTINUED FROM PAGE 2.]

In the first of these cases, a leading one and often cited, it appeared that the ship-owners had employed a stevedore to unload the vessel in port, and had placed the control of it for that purpose in his hands. By his negligence the plaintiff, engaged under the stevedore in loading, was injured. The lower court non-suited the plaintiff because he was engaged in a common employment with the negligent stevedore for a common master, and the stevedore and the plaintiff were fellow-servants. But this court said, in effect, that there being evidence that the entire work of unloading the vessel had been delegated to the stevedore, it should have been left to the jury to say whether or not the stevedore was the representative of the owners or a fellow servant of the plaintiff.

That case, we submit, governs this. There was evidence here that these defendants had sent this boat with its crew on its voyage to distant markets under the charge and control of their captain, (pp. 6, 15, 35,) and hence it must follow that the duties which they owed the plaintiff of reasonably safe instruments to work with, and a reasonably safe place to work in, could not be discharged by them absent, but must be discharged through their captain. It further appeared that the captain had power to hire and discharge the crew and had supreme control of the navigation of the vessel, (pp. 6, 15, 34, 35, 38,.) Here was evidence much stronger, we submit than in Mullan's case to go to the jury on this vital question of fact; but the court below, we contend, erred in the same way as in that case and assumed that a ship's captain out of port commanding a vessel away from its owners sent by them for the purpose of navigating it, was the fellow-servant of a deck-hand or, common sailor. Again, our case is stronger than Mullan's, because in his the negligent agent was in port and in the home of the owners, and there was not the same necessity from public policy, as, we contend, of enforcing the responsibility of the owners as there is in our case where the vessel was out of port, and the control of the vessel and crew ex necessitate placed in other hands.

Hass vs. The Steamship Co., supra, enforces and illustrates the doctrine of Mullan's case. There, this court in affirming the judgment of non-suit, did so because there was no evidence that the stevedore or the master of the vessel had been authorized to act as representative of the vessel's owners, who were defendants. But here there was such evidence, (p. 6.) Here the vessel was on the voyage and away from the personal control of the defendants (pp. 6, 16); there the vessel was in port, not in process of navigation, but presumably under the personal power of the defendants. Here the captain was in the active discharge of his command of the ship and his crew (pp. 33, 38); there a stevedore had intervened to uuload the vessel lying in port, and there was no evidence, as in Mullan's case, that the ship owners had placed him in entire control of the ship for that purpose. Hass' case equally with Mullan's, is strong and full to the point that the question of fellow servant, or vice principal, was one of fact for the jury to determine.

The third and fourth reasons assigned by the defendants for the non-suit may be considered together. They are substantially that the captain's negligence was about acts in the performance of which he was engaged as a fellow-servant, and not as a vice-principal.

Waiving, for the purpose of the argument, our contention that the captain of a vesssl on a voyage is never the fellow-servant of his crew, let us examine whether these reasons are well founded. The captain was actively engaged in the navigation of the vessel; but the negligence of which we complain was in assigning the plaintiff to work in a dangerous place without warning him of it, and with a dangerous and defective line, of which the captain had notice and plaintiff had not. Now both these negligent acts were of the kind that this court has said the master is liable for to his servant. In Mullan vs. Steamship, supra, the negligence was in using an insufficient line in hoisting under the direction of the stevedore in port. Here the neg ligence, or one of the negligent acts, is in persisting in using in the navigation of the vessel a defective and dangerous line after knowledge of its defect had been brought home to these defendants through their captain, whom they had delegated to perform their duties in their absence and on the voyage.

And it is hardly necessary, perhaps, to observe that the obligation to furnish reasonably safe instruments goes also to the maintaining them so. Nor is it any answer here to say that they became unsafe on the voyage and without any negligent personal act of defendants; because the responsibility to maintain safe instruments being one which cannot be relieved by delegation of power or mere absence of the master, where notice is brought home to the master's representative that the instrument is unsafe, he continues its use at his peril, or the peril of the master whom he represents. Thus, when the captain knew that the line could not be longer payed out, he had notice that it was a dangerous instrument, and it was his duty to discard it Nor does it make any difference, logically, that he continued to use it but a minute after that notice came to him. The reason for not using it arose instantaneously with the notice, and its use for a minute was logically the same as for a year. But it is not alone reasonably safe instruments that the master is bound to furnish and maintain; he must also furnish his servant with a reasonably safe place in which to work; or, to express it differently, he must not send him into a position of peril without giving him notice of it. But here they did so. Acting through their navigator, the captain, they directed him to cast off or cut the rope, which had, for a period of a full minute, been subjected to the strain of the weight of the Ohio's current against some acres of coal and its barges. It was in the night time, and they knew that he, on shore, could not see what had taken place on the boat and yet no word of warning, no friendly shout even was sent to him telling him to look out for peril. Nay, he was positively commanded to do the work. He did his duty and was injured, and in that respect this case is like Leins vs. Seifert, 116 Pa. St. 628. In that case the defendant's dispatcher directed the plaintiff to go into a dangerous position where he was injured by the collision of two railroad trains Here the defendant's captain ordered the plaintiff into the dangerous position where the snapping of a rope broke his leg. In both cases the agent had had delegated to him exclusive powers; in one case the direction of the running of trains, in the other the navigation of the ship.

The language of this court in the case last cited states the law which we conceive applicable here so clearly that we quote a paragraph. The learned justice who wrote the opinion, at page 647, (116 Pa. St.) says:

"But there are some duties which the master owes to the servant, and from which he cannot relieve himself except by performance. Thus, the master owes to every employe the duty of providing a reasonably safe place in which to work, and reasonably safe instruments, tools, and machinery with which to work. This is a direct personal and absolute obligation; and while the master may delegate these duties to an agent, such agent stands in the place of his principal, and the latter is responsible for the acts of such agent; and when the master or superior places the entire charge of his business, or a distinct branch of it, in the hands of an agent or subordinate, exercising no discretion or oversight of his own, the master is held liable for the negligence of such agent or subordinate."

The fifth reason assigned for the non-suit was that the evidence disclosed contributory negligence on the plaintiff's part; negligence is ordinarily for the jury and the court will only withdraw a case from the jury for this reason when the plaintiff's act appears uncontradicted and is of a kind that has been settled to be negligence. The defendants contended on the motion for non-suit that the evidence disclosed that the plaintiff had cut the rope negligehtly and because he had cut it in the wrong place the injury was received. This was erroneous. The evidence on page 28, which is the strongest there is to support defendants' contention, is merely that the plaintiff, while frightened and excited by the sudden discovery of the dangerous position into which defendants, by their captain, had sent him, erroneously cut the rope in a place where he did not mean to.

There is no admission that he intentionally cut the rope at the place it parted. Even if there were, it would then be within the ruling of Schall vs. Cole, 107 Pa. St., 1. In that case, when the other servants were fleeing from danger, the plaintiff endeavored to stay an engine which was running off, but in the excitement he unwittingly increased the speed of the machinery, so that a pulley broke, and a piece struck and broke his leg. Defendant sought to defeat a recovery because plaintiff's own act had plainly induced the injury. But this court held that as the running off of the engine was the result of defendant.s negligence the jury were to find whether or not under the circumstances, and especially the condition of nervous excitement induced thereby, the plaintiff was chargeble with contributory negligence. And in that case the plaintiff had not been directed by the defendant to do an act in the performance whereof he was injured. as he had been in the case.

We submit therefore, that the case should have been sent to the jury, and that the learned court below, sitting in banc, erred in refusing to take off the judgment of non-suit.

W. M. WATSON,
WILLIAM S. PIER,
Attorneys for Plaintiff in Error.

There has been considerable figuring on the steambarge M. M. Drake, which the underwriters want to dispose of. Their price is $60,000. It is learned that $55,000 cash has been refused for her. Reliable parties, who have carefully examined the boat, state that she has been thoroughly repaired, and that her machinery and boiler are in good shape.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a prescription which completely cured and saved him from death. And sufferer from this dreadful disease sending a self addressed stamped envelope to drofessre S. A. Lawrence, 212 East 9th st., New York will receive the receipt free of charge.

FOR SALE.

PASSENGER PROPELLER GOLDEN EAGLE, Thoroughly over hauled this spring, "Sutton" Engine 14×14, 100 pounds steam, runs 14 miles an hour easily, and carrys 500 peeple. Owner has no reute for her and will sell for what she is worth.
JAMES E. ENGLISH
East Saginaw. Mich.

FOR SALE.

BARGE COL. BRACKET—She carries 260M feet of lumber, 420 tons of coal. Had $900 worth of repairs last season. Fit out good. Price $1,600. Mention this paper. ED. J. KENDALL, Port Huron.

FOR SALE.

MARINE ENGINE nearly new, includes bilge pump, hand pump and force pump, cvlinder 17 by 20. Will sell cheap. Address.
K. BOX, Record Office.

FOR SALE

TWO MARINE BOILERS 7 years old in good order for sole cheap, 9¾ feet shell by 16 feet long for $1,000 each, ½ down balance one year, by
C. H. LANE, BUFFALO, N. Y.

FOR SALE—
A HANDY THREE-MASTED SCHOONER, well found and equipped, will carry 500 tons of coal, or 270 M feet of lumber. Rates, A 2½.
Also, a two-masted schooner; capacity, 425 tons of coal, or 250 M feet of lumber. Rates, A 2½.
Both these vessels have been well kept up and are most desirable investment. Apply to PARKER & MILLEN, Detroit, Mich., or to THE MARINE RECORD, Cleveland, O.

WANTED.

TUG.—A good towing tug, about 18x20 engine. Inquire of CAPT. E. S. SMITH,
No. 30 Twelfth avenue. East Duluth. Minn.

FOR SALE OR EXCHANGE.

FOR STEAMBARGE, A NEW PASSENGER steamer, will carry 75 tons freigh', allowed 115 passengers. Will sell on easy terms or exchange for steam barge. Address, BOX 90. Petosky, Michigan.

FOR SALE.

SCHOONER FRANC MINER. Her dimensions are as follows: 68 feet keel, 17 feet beam, 5 feet hold, she has two masts and is three years old, in good shape, outfit and all. I also have a complete outfit for a tug or barge, engine 18 by 20. boiler 6½ by 14, shaft wheel and all complete For particulars write to L. NAU, Green Bay, or CAPTAIN J. A. CUSICK, Fort Howard, Wis.

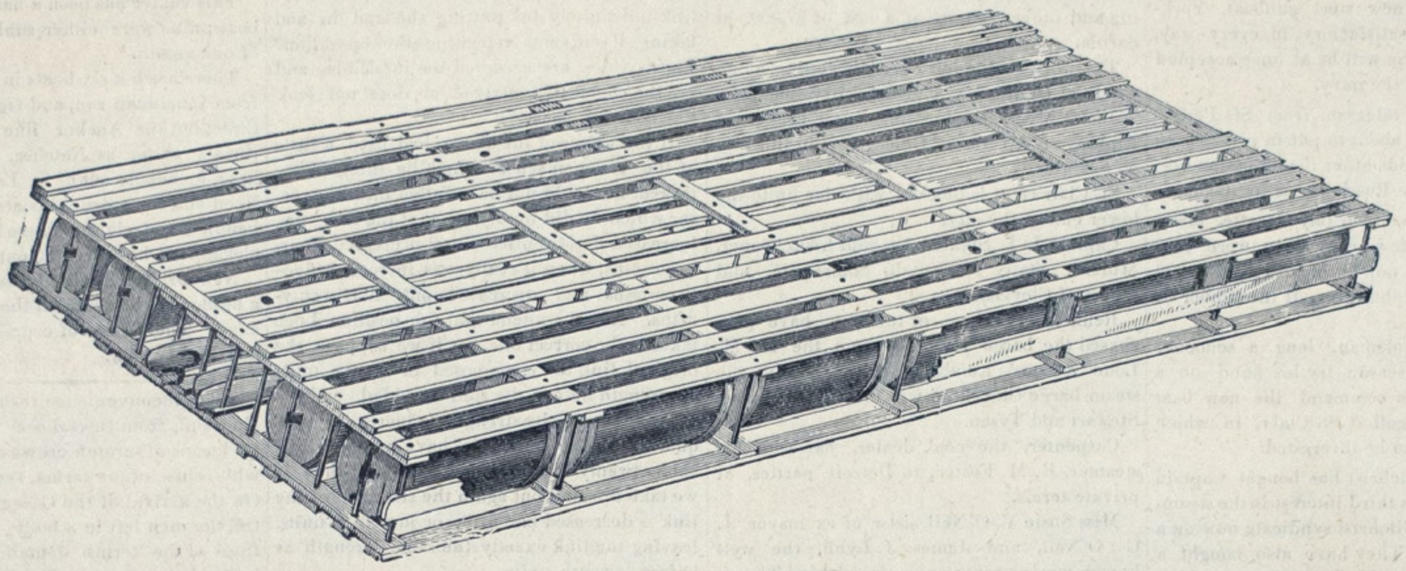
WANTED.

SCHOONERS—20 to 40 tons, in good repair. Send full description and photo or drawing. Address,
B. C. LINDLEY,
Box 479. Traverse City, Mich.

CLARK'S METALLIC LIFE RAFT.

Our cut represents the Clark patent metallic life raft, approved by the board of supervising inspectors of steam vessels, and the handiest life saving apparatus that has ever been established, especially for the passenger trade. Great merit is attached to its lightness and buoyancy, the several cylinders contained in the raft allowing it to retain its buoyant properties in the event of one or more of the cylinders being stove in with floating wreckage; though to avoid any accident of this sort, the manufacturers (the Detroit Boat Works) have carefully guarded the cylinders by placing strong guards and battens well bolted and fastened to protect each air chamber from floating debris when launched, or from the traffic passing to and fro a vessel's deck where the raft may be stowed while in port. From a reference to another column of this issue, our readers may notice that the Clark patent metallic life raft can be ordered from the manufacturers at prices and sizes to suit any special requirements from the largest propeller to a small yacht. The raft built to contain eight persons would seem to be the most handy and convenient a structure that could possibly be devised for the purpose at a minimum cost, and with two of these on board a medium sized vessel, the crew would have an excellent standby in case of accident to the larger vessel, while in the event of a person dropping overboard the smaller sized raft could be instantly thrown overboard to the rescue in much less time than it would take to clear and lower away a life boat. The larger sized rafts are evidently manufactured for the finest class of passenger steamers, having a capacity to carry forty persons, and although most of the steamers are fitted with the Clark patent metallic life raft, the manufacturers are still kept busy filling orders, and several large shipments will be made this spring, perfect satisfaction being guaranteed to the purchasers wherever the rafts are ordered or shipped to.

We take great pleasure in recommending an apparatns so highly spoken of by vessel owners and seamen and would like to see the day when no vessel's outfit would be considered complete unless she had a thoroughly good and reliable life raft aboard, and we feel certain that in many instances where boats are swamped or turned bottom up, a non-capsizable and buoyant life raft would live out the gale and rescue its occupants in spite of the fury of the elements even after the boats had been rendered useless by swamping or the unseamanlike handling of the persons contained in them. The board of supervising inspectors of steam vessels having approved of Clark's metallic life rafts is a sufficient guarantee of its merits, and the large patronage which it has received from vessel owners amply testify as to its utility.



CLARK'S METALLIC LIFE RAFT.

WANTED—TO BUY TWO TOW BARGES of about, 500,000 capacity, or two A 2 schooners. Address, CAPTAIN A. FLAGSTAD.
Montague, Mich,

Notice to Vessel Owners.

I HAVE CUSTOMERS FOR several barges, both steam and tow, and would be pleased to hear from each and every owner having vessels for sale, giving name, capacity, draught of water, light and loaded. If steam, condition and age of boiler, size of engine, etc. Correspondence solicited direct from owner, as I will not divide commission. Address,
J. F. WHITTEMORE.
Agent and Ship Broker. Bay City, Mich.

M. M. GLEKLER,
MANUFACTURER & DEALER IN

Cigars
AND
Tobacco.
156 River-st., Cleveland, Ohio
No one should leave port without a box of M. M. Glekler's marine cigars.

J. C. GOSS.
Sail Maker and Rigger,
20 and 22 Woodward Av.,
DETROIT - - MICH
LARGE STORAGE ACCOMMODATION FOR VESSEL OUTFITS.
Covering Boilers and Steam Pipes a Specialty

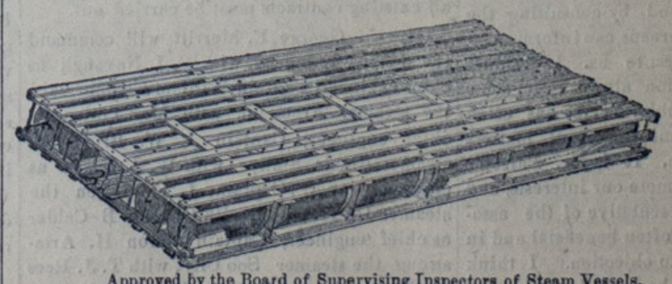
A. S. DeVries,
SHIP AND ORNAMENTAL PAINTER,
22 South Water street, Cleveland, O.
Established in 1871. Telephone 210.
Signs. Steering Balls, Liberty Caps, Ornamental Work a Specialty in Cabins.

J. R. OLDHAM, C. E.,
Naval Architect,
Marine Inspector.
SPECIAL EXPERIENCE IN DESIGNING, PRICES SELF-TRIMMING HATCHES COAL SHUTES AND BLAKE'S PATENT BOILERS.
32 Exchange Bld.,
BUFFALO, N. Y

HENRY ESCH,
Groceries and Provisions,
Fresh and Salt Meats,
DRY GOODS AND CLOTHING.
Special attention given to vessel supplies.
Corner of Jay and 9th st. Manitowoc Wis.

FOR SALE.
TUG BOAT, STEAM YACHT, &c.
—AT—
Bell's Steam Engine Works,
BUFFALO, N. Y.
1 new Wooden Tug, 76 feet long, 15½ feet beam; engine 18x20, steel boiler 6 ft. 8 in. by 10 ft. 9 in.
1 steel and iron Steam Yacht 85 feet long, 14 feet 4 inches beam; compound engine 9x18, 12 in. stroke, independent condenser, with boiler all complete.
1 wooden steam yacht, "Little Mac," 60 feet long, 10½ feet beam; engine 8x9, Scotch steel boiler, 2 masts, and furnished all complete.
1 marine engine 20x22.
1 marine engine 14x16.
1 marine engine 14x14.
Apply as above. January. 1889.

FOR SALE.
Two Tugs and Three Marine Boilers.
Tug Uncle Sam.
Length 60 feet, beam 14 feet. depth 7 feet, draft 8 feet, engine 17 by 17; steel boiler 12 feet long, 5 feet 4 inches diameter, of ¾ths plate, allowed 100 pounds of steam. Hull rebuilt in 1887. Price $5000.
Tug J. C. Ingram,
Length 54 feet, beam 18 feet 6 inches, depth 7 feet, engine 17 by 18, boiler 10 feet long, 5½ feet diameter, of ¾ths plate, allowed 60 pounds of steam. Rebuilt in 1885. Price $5000.
A Martne Steel Boiler,
17 feet long, 7 feet diameter, allowed 110 pounds of steam, 6 years old, in good condition; price $800.
A Marine Iron Boiler,
14 feet long, 7½ feet diameter, allowed 80 pounds of steam, in good repair; price $400.
Marine Iron Boiler,
14 feet long, 5½ feet diameter, allowed 90 pounds steam, in good condition; price $300.
Apply to
DUNHAM TOWING & WRECKING CO.,
234 South Water St., Chicago, Ill.

DETROIT BOAT WORKS
—SOLE MANUFACTURERS OF—
Clark's Patent Metallic Life Raft.

SIZES AND PRICES.

Capacity, Persons.	Size.	Each.
4	3' 2" x 5' 10"	$30
5	3 5 x 6	35
6	4 x 6	40
8	4 x 8	50
10	5 x 8	60
15	6 x 10	75
20	6 3 x 13 2	90
30	7 x 15	125
40	8 x 20	160

Approved by the Board of Supervising Inspectors of Steam Vessels.
Other Sizes and Proportions Made to Order.
Shops, foot Dequindre st. DETROIT, MICH.

FORE AND AFT.

M. Winter, last week, sold the schooner Jesse Winter to H. Williamson, of Racine for $1,050.

The Nicaragua canal is to be finished in five years, according to A. G. Menocal, the chief engineer.

Load after load of oak flitch is being hauled to the ship yards at Trenton and Gibralter, from the saw mills.

The government will establish an oil station at St. Joseph, Mich, from which to supply oil to the lighthouses on the lake.

Canadian insurance companies announce a reduction in premiums upon all vessels which carry a store of oil for the purpose of putting it on the water

The annual report of the directors of the Richelieu & Ontario Navigation Co., just issued, shows that Quebecers hold 8,500 shares out of a total of 13,000 shares.

J. E. Ranny, marine engineer of Ogdensburg, left for Detroit Saturday to accept a position in the Detroit Dry Dock Engine works, one of the largest concerns along the lakes.

Notwithstanding the reports that Detroit vessels were to be loaded with ice for Chicago, information comes from that port at the head of the lake, saying they have plenty of ice.

A change has been made in the recent order-in-council which increases the export duty on logs from $2 to $3 per 1,000 feet, providing that logs cut and ready for shipment at the date of the passage of the order may be shipped at the old rate, viz., $2.

All old subscribers are kindly invited to remit arrearages, and readers not subscribers will be made welcome to our list.

DIXON'S

GRAPHITE

PIPE JOINT GREASE

FOR STEAM OR GAS PIPES

makes a perfect joint that can be opened with ease in three years or thirty years. Bolts, screws, etc., smeared with this grease will not rust even in the dampest places. Write to Jos. Dixon Crucible Co Jersey City, N. J., for circulars.

GEO. RANDERSON & SON,

DEALERS IN ALL KINDS OF

FRESH AND SALT

MEATS

Vessel Orders Promptly Filled.

Telephone 1732. No. 236 Detroit Street,

CLEVELAND, O.

FOR

EUROPE!

By all first-class Steamship Lines at lowest rates. Call on or address,

A. J. JACKSON.

100 Public Square, CLEVELAND, OHIO.

Travelers' Information Bureau.

Ocean, Lake and Railroad

TICKET AGENTS

224 Bank St.,

CLEVELAND, O

ERIE RAILWAY.

The favorite and picturesque route to New York, Boston, and the East. The shortest and quickest route to Pittsburg, Washington and Baltimore, and the southeast.

New Central Depot South Water st. and Viaduct.

Change of time goes into effect Dec. 23, 1888.

Central or ninetieth meridian time, 33 minutes slower than Cleveland city time.

Until further notice trains will leave from the new Central Depot, South Water street and Viaduct, as follows:

DEPART.

No. 62, Mahoning Valley Accom	†	6 00 a m
No. 72, New York Express	*	8 30 a m
No. 72, Fast Pittsburg Express	*	8 30 a m
No. 64, Pittsburg Express	*	3 00 p m
No. 66, Leavittsburg Accom	*	4 20 p m
No. 68, New York Express	†	10 50 p m
No. 68, Pittsburg Express	†	10 50 p m
No. 70, Pittsburg Local Express	†	11 45 a m
No. 74, Shenango Valley Express	†	4 20 p m

ARRIVE.

No. 65, Fast New York Express	*	12 50 p m
No. 61, Pittsburg Express	†	7 35 p m
No. 67, Pittsburg Express	*	10 55 a m
No. 65, Pittsburg Express	†	12 50 p m
No. 63, New York Express	*	6 55 p m
No. 63, Pittsburg Express	*	6 55 p m
No. 69, Pittsburg Local Express	†	8 10 p m
No. 13, Youngstown Local	†	5 25 a m

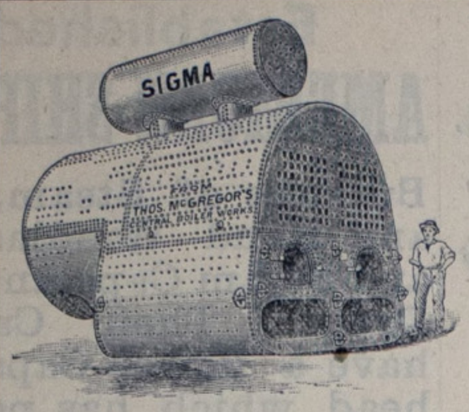
*Daily. †Daily except Sunday.

☞This is the only route by which passengers can reach Cory, Elmira, Binghampton, New York City, and intermediate points without change. No change to Boston and New England cities.

Baggage checked through to all points East.

Through tickets and information regarding the route can be obtained at office, 141 Superior street, and at depot N. Y., P. & O. railroad, South Water street and Viaduct, Cleveland.

A. M. TUCKER, Gen. Supt., Cleveland.
L. P. FARMER, Gen. Pass. Agent, New York.
W. C. RINEARSON, A. G. P. A., Cleveland.
M. L. FOUTS, Passenger Ticket Agent, 141 Superior street, Weddell House, Cleveland.



Thomas McGregor,

CENTRAL BOILER WORKS

MANUFACRER OF

Marine and Stationary

BOILERS,

—ALL KINDS OF—

Rendering Kettles, Tanks,

—AND—

SHEET IRON WORK.

SAMUEL F. HODGE & CO.,

MANUFACTURERS OF

MARINE,

Stationary & Portable Engines,

MINING MACHINERY AND

PROPELLER WHEELS,

Riverside Iron Works, 314 to 326 Atwater Street,

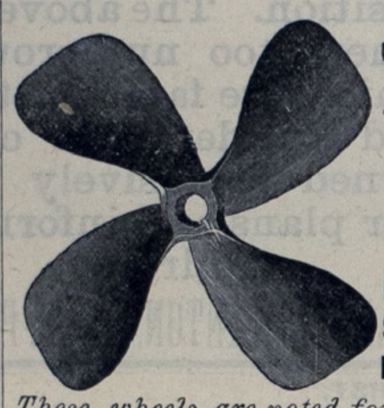
DETROIT, MICH.

H. G. TROUT,

KING IRON WORKS,

BUFFALO, N. Y.,

MANUFACTURER OF



Triple Expansion Marine Engines,

Three Cylinder and Fore and Aft and Steeple Compound Marine Engines,

High and Low Pressure Engines

SECTIONAL PROPELLER WHEELS,

PROPELLER, TUG & YACHT WHEELS

These wheels are noted for their extra speed and towing power or aproportionate saving of coal.

PRICES QUOTED ON APPLICATION.

BOSTON & LOCKPORT BLOCK CO.,

(Successors to BAGNALL & LOUD BLOCK CO.) BOSTON, MASS.

MANUFACTURERS OF THE CELEBRATED

Self-Adjustable Five Roll Roller Bushed

BLOCKS.

which for DURABILITY and STRENGTH, are far ahead of any other make. One trial will convince any one of their GREATER PURCHASE.

Be sure and call for the **STAR BRAND** in ordering your Blocks.

We call attention to our DIAPHRAGM PUMP, which will pump more at a stroke and work easier than any other make in the market. Give it a trial.

YORK STORE, 33 South Street,

F. BALDWIN, Manager.

We also make a specialty of furnishing the handsomest style of blocks in the market for Yachts, with special designs to suit the place.

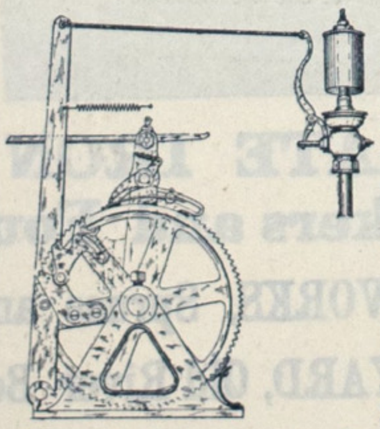
ARTHUR & BOYLAN,

Steamboats, Tugs, etc, Coaled Day and Night.

DEALERS IN LACKAWANNA ANTHRACITE COAL.

Woks: Ft. West River St., Whisky Island, C. P. R'y. Slip, Government Pier

OFFICE 130 RIVER-ST., CLEVELAND, OHIO.



Chase Fog Whistle Machine

This machine has been placed on the following steamboats during the past year: SPOKANE, WALLULA, KASOTA, CHARLEMAGNE TOWER, JR, YAKIMA, MISSOULA, SITKA, FAYETTE BROWN, R. J. HACKETT, FOREST CITY, SPARTA, HAVANA, VIENNA, OSCAR TOWNSEND, CITY OF CLEVELAND HENRY CHISHOLM, SUPERIOR, E. B. HALE, M. B. GROVER, J. S FAY, R. P. RANNEY, SMITH MOORE, CHARLES J SHEFFIELD, IRA H. OWEN, CAMBRIA, CORSICA, J. H. OUTHWAITE, SAMUEL MATHER, R. R. RHODES, COLUMBIA, AURORA, OHIO, WM. EDWARDS, S. E. SHELDON, AUSTRALASIA, RALEIGH, BULGARIA, ROUMANIA, J. F. EDDY, HIAWATHA, THOS. ADAMS, A. P. WRIGHT, GLADSTONE, E. P. WILBUR, SOO CITY, E. M. PECK, ROBERT L. FREYER AND NORTHERN LIGHT,

To the President and Board of Supervising Inspectors of Steam Vessels:

Your committee to which was referred the "Chase Fog Whistle Machine" beg leave to report: "That we have carefully examined the same and find that it blows at regular intervals, being worked by the engine, thereby insuring regular and continuous blasts for any length of time that may be required and we recommend it or similar device to owners of steam as an additional safeguard to navi to.

H. S. LUBBOCK,
GEO. H. STARBUCK,
W. D. ROBINSON, } Committee.

The manufacturers are the Chase Fog Whistle Machine Co., corner of Elm and Spruce streets, Cleveland, O.

FOR SALE.

WANT AN OFFER for a marine boiler, in good condition, ready to use; dimensions, 8½ feet diameter and 18 feet long.

CAPT. V. E. MEYERS, Manitowoc, Wis.

FOR SALE.

HARBOR TUG for sale, cheap. This tug is in good repair and will be sold cheap, for cash, that is, $4,600. Engine 18x20, boiler 5 feet 6 inches by 11 feet, and allowed 100 pounds of steam. For further particulars inquire at 113 Franklyn avenue, Cleveland, O. CAPT. E. DAHLKE.

FOR SALE.

BARGE B. M. BAKER for sale cheap for cash, or will exchange for real estate. This is a bargain.

J. W. WESTCOTT, Detroit, Mich.

WANTED.

A GOOD MARINE ENGINE, 20x22, with or without boiler, etc, Address box 1, branch office Marine Record, 252 South Water st, Chicago, Ill.

HARBOR TUG FOR SALE.

THE TUG MYRTLE, of Sandusky, Ohio, for sale cheap. Is in first-class condition. For particulars write to FRED GROCH, Sandusky, O.

TOLEDO, OHIO. } OAR MILLS
MONTPELIER, OHIO. }

NEPTUNE ANCHOR WORKS.

DEGRAUW, AYMAR & CO.,

MANUFACTURERS AND IMPORTERS OF

CORDAGE OAKUM, WIRE ROPE

CHAINS, ANCHORS, OARS, BLOCKS

COTTON AND FLAX DUCKS, FLAGS

BUNTINGS, RUSSIA BOLT ROPE.

MARINE HARDWARE AND SHIP-CHANDLERS' GOODS GENERALLY.

Nos. 34 AND 35 SOUTH STREET, NEW YORK.

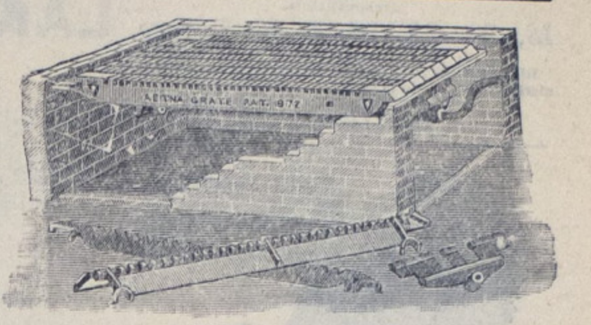
THE ÆTNA GRATE.

G. C. BARNES, Agt.

This Improved Shaking Grate Especially Adapted to Burning Slack.

Glob Iron Works, manufac's.,

Office and Foundry, corner of Elm and Spruce-sts., CLEVELAND, O.

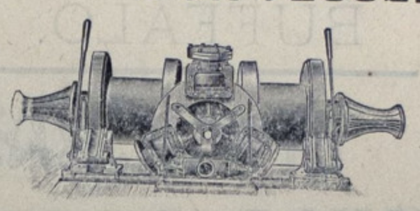


R. DUNBAR & SON,

—MANUFACTURERS OF—

Hoisting Engines, Single and Double Drums

FOR VESSELS & DOCKS.



Accompanying Cut shows our Double Drum Hoister, operated by ONE engine. Two hatches can be unloaded at once. Two machines in one, at low cost. Send for descriptive circular.

R. DUNBAR & SON,
BUFFALO, N. Y.

H. B. & G. B. BURGER,

Ship-builders and Contractors.

MANITOWOC DRY DOCK.

Dry Dock will admit Vessels of 1100 tons drawing 12 feet. Have also a set A Boxes in connection with the Ship yard capable of lifting Vessels of 350 tons. of large stock of SPARS CONSTANTLY ON HAND.

VESSELS DOCKED AND REPAIRED ON REASONABLE TERMS.

MANITOWOC, WIS.

DETROIT BOAT WORKS.

SOLE MANUFACTURERS OF

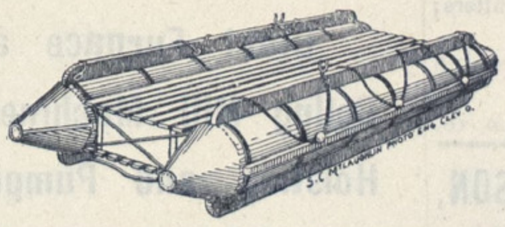
Clark's Patent Metallic Life Rafts.

HIGHLY INDORSED BY THE BOARD OF SUPERVISINGIN-SPECTORS.

Yawl Boats in stock 14, 16, 18, 20 and 22 feet long. **Life Boats** in stock 16, 18, 20 and 22 feet long.

Steam and Hand Steering Wheels to Order

Shops ft. of ORLEANS ST., DETROIT MICH.



THOS. DREIN & SON

BUILDERS OF

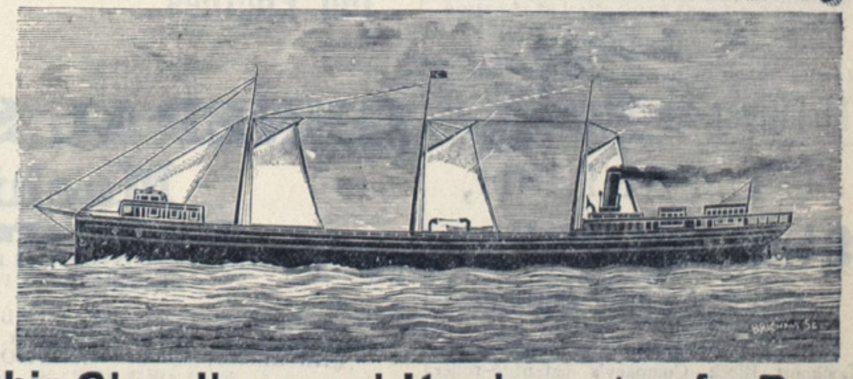
METALLIC LIFE BOATS

and LIFE RAFTS of all classes Government and Pleasure Boats of Wood. Block Cork Life Preservers. Sole manufacturer of Capt JONATHAN CONE'S celebrated

Patent Life Rafts

Tatnal and Railroad Wilmington, Del

H. CHANNON CO.,



Ship Chandlers, and Head-quarters for Best Steel and Iron Tiller Ropes.

2[illegible] to 26 Market-St. near Randolph-St., Chicago.

J. E. SIMPSON & CO.,

GENERAL CONTRACTORS.

AND BUILDERS OF

SIMPSON'S PATENT IMPROVED TIMBER DRY DOCK

NO. 33 BROADWAY, NEW YORK CITY.

HOWARD H. BAKER & CO.

Ship Chandlers & Sail Makers

WHOLESALE AND RETAIL DEALERS IN

Cordage, Wire Rope, Blocks, Canvas, Anchors, Chains, Paints, Oils, Naval Stores.

Cylinder, Lard, Signal and Lubricating Oils a Specialty.

AGENTS FOR THE

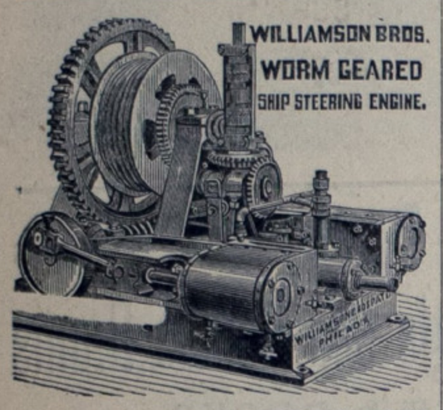
American Ship Windlass Company for Lakes Erie and Ontario.

Importers of Nautical Instruments of Every Description.

18, 20, 22, 24, & 26 Terrace.

BRANCH STORE foot of Washington street (formerly D. S. Austin & Co.)

Buffalo, N. Y.



HOISTING ENGINES AND SHIP STEERING ENgines; with either Frictional, Spur or Worm Gear of various patterns to suit all purposes.

J. W. GROVER & SON,

SHIP CHANDLERS,

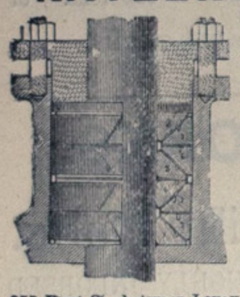
SAIL MAKERS AND RIGGERS

IMPORTERS AND WHOLESALE DEALERS IN

Wire Rope, Manilla, and Tarred Cordage, Canvas, Blocks, Oakum, Tar, Pitch, Oars, Anchors, Chains, etc.

116 & 119 RIVER ST., & 134 & 135 DOCK CLEVELAND, OHIO.

KATZENSTEIN'S



SELF-ACTING METAL PACKING

FOR PISTON RODS, VALVE STEMS, Etc.

Adopted and in use by the principal Iron Works and Steamship Companies within the last eight years in this and Foreign countries. Also flexible tubular metallic packing for slip-joints on steam pipes and for hydraulic pressure. For full particulars and references address

L. KATZENSTEIN & CO

857 West St., between Leroy and Clarkson-st, N. Y.

CAPT. THOS. WILSON, who uses this packing on his Steamers, and THE MARINE RECORD are Agents for Cleveland and the Lakes.

McKINNON BROS.

Ashtabula Harbor, O.,

Machinists, Shipsmiths & Steamfitters;

ALSO, DEALERS IN

Engineers' Supplies, Lubricating and Burning Oils.

BUSINESS PROMPTLY ATTENDED TO.

CAPT. GEO. A. SIMPSON,

Compass Adjuster,

COMPASSES, BAROMETERS, PATENT LOGS AND MARINE GLASSES REPAIRED,

Schooners can have their Compasses Adjusted for Local Attraction at the time of repairs by stating how much they are out on East or West Courses, and which way it leads, North or South of above Courses

161 River St., Cleveland, O.

E. L. PARRISH,

Ship Chandler,

Sail & Awning Maker.

Sewell & Day's Boston Rope. Boston and Lockport Block Company's patent 5-roller Bushed Blocks.

35-37 Main st., - BUFFALO, N. Y.

TELEPHONE NO. 314.

FOR SALE.

TUG DREADNAUGHT is offered by the undersigned for sale cheap. She is in good condition, has double engines, and it is well known that the machinery is as good as can be made. The boilers are allowed 100 pounds of steam. Inquire of

CAPTAIN THOMAS DOWLING,
248 Clinton st., Cleveland, O.

FOR SALE.

STEAM BARGE PASSAIC, and four consorts. Capacity, 3,300 tons coal or 2,400,000 feet timber. Boat now laid up at Buffalo. For terms and price, inquire of J. M. JONES, 52 Griswold St., or C. C. BLODGETT, 242 Woodbridge St., Detroit, Michigan.

ESTABLISHED 1847

Thomas Quayle's Sons,

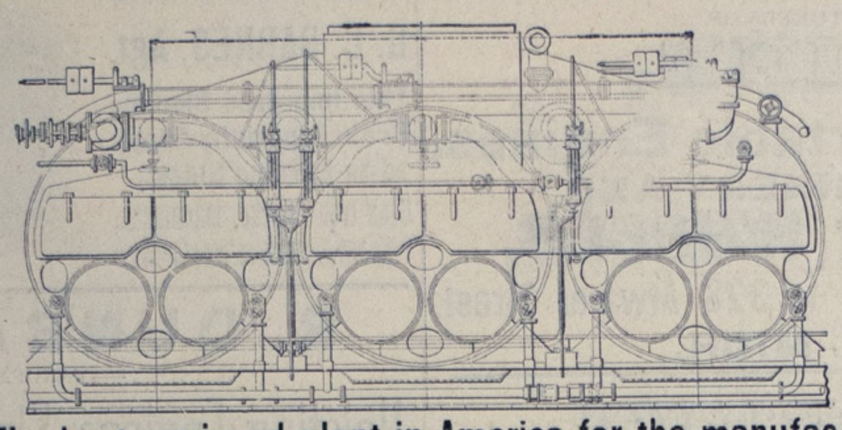
OFFICE & WORKS CENTRAL WAY

SHIP BUILDERS,

Thos. E. Quayle,
George L. Quayle,
Wm. H. Quayle.

Cleveland, O.

LAKE ERIE BOILER WORKS.



The best equipped plant in America for the manufacture of Modern Marine Boilers.

BUFFALO, NEW YORK

UPSON, WALTON & CO.

SELL GOOD ROPE AT FAIR PRICES

Agents for the American Ship Windlass Co., Williamson Bros. Steam Steerer, Drein Metallic Life Boats.

159 AND 163 RIVER-St., CLEVELAND, O.

Established in 1857.

AMERICAN SHIP WINDLASS CO.

Builders of Steam, Messenger Chain and Hand Windlasses, Power, Crank and Steam Capstans, Wharf and Ferry Drops. Their Capstan Windlasses have a Power Capstan with a single head which has power and speed arrangement entirely independent of th Windlass, and which makes a direct connection with the Windlass without the intervention of any gearing to complicate it and increase the friction.

In all their styles of Steam Windlasses they make a direct connection between the engines and the windlass without counter shafts or additional gearing. This saves friction and liability to break down, and conduces to durability and ease in operating. They also have a counterbalance for the engines and an automatic lubricator for worm and worm gear, and the engines are placed together in the most accessible position. The above improvements and others too numerous to mention, but which are familiar to Masters, Owners and Builders, are covered by Patents owned exclusively by this Company. For plans and information

Address,

FRANK S. MANTON, Agent. P. O. box 53, Providence, R. I.

H. M. HANNA, PRESIDENT. JOHN F. PANKHURST, VICE PRESIDENT AND GENERAL MANAGER. LUTHER ALLEN, SECRETARY AND TREASURER

THE GLOBE IRON WORKS COMPANY

BUILDERS OF

IRON AND STEEL STEAMSHIPS

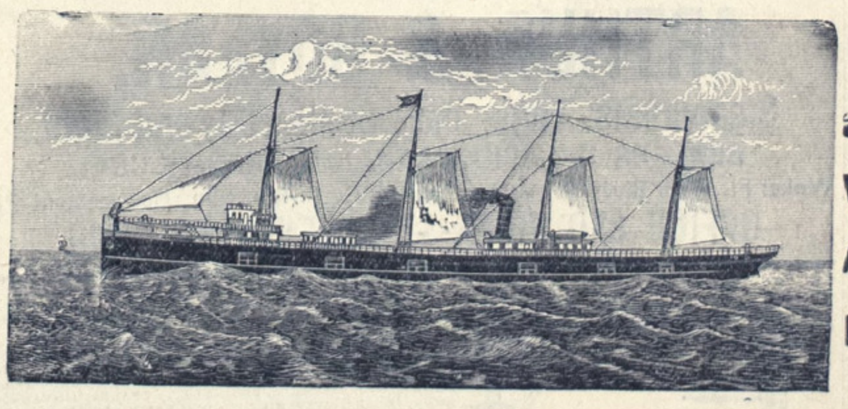
AND VESSELS OF ALL DIMENSIONS.

Triple Expansion, Compound, High Pressure and Low Pressure

MARINE AND STATIONARY ENGINES,

MARINE, STATIONARY & PORTABLE BOILERS.

Blast Furnace and Rolling Mill Machinery, Hoisting and Pumping Engines, Portable Hoisting Engines.



Steam Pumps, Steam and Hand Windlasses, Winches, and Marine Appliances of Every Description.

GENERAL SHEET AND PLATE IRON WORKERS,

Machinists, Boiler-Makers and Founders.

Builders of

IRON STEAMSHIPS ONOKO, WILLIAM CHISHOLM, J. H. DEVEREUX, ETC.

STEEL STEAMERS SPOKANE, CAMBRIA, CHAS. J. SHEFFIELD, IRA H. OWEN, CORSICA, CORONA, NORTHERN LIGHT, NORTH WIND, NORTHERN KING, E. P. WILBUR, S. SWAIN.

PASSENGER STEAMER DARIUS COLE, AND STEAM YACHT TWILIGHT.

IRON TUGS INTERNATIONAL AND RECORD.

OFFICE & WORKS, Spruce and Elm Streets.

IRON SHIP YARD, Old River Bed, foot of St. Paul St

CLEVELAND, OHIO.

Established in 1859.

HENRY LEOPOLD.

Manufacturer and Dealer in all kinds of fine and plain

FURNITURE & UPHOLSTERY,

Mattrasses and Vessel Furniture

A SPECIALTY.

Warerooms 798 and 800 Lorain-st., near Fulton. Factory 10 Willet-st.

CLEVELAND, OHIO.

Cleveland Dry Dock Co,

Shipbuilding, Drydocking, Repairing and Spar Making.

CLEVELAND, OHIO.

CARLETON & COLE,

Port Huron Machinery & Supply Depot,

PORT HURON, MICH.

Manufacturers' Agents and Dealers in Boilers, Engines, Steam and Wrecking pumps, Engineers Supplies, and Fit-outs for Steamers and Vessels.

405 and 407 Water st. East.

Shipyard for Sale or Rent.

THE LOOMIS SHIPYARD AT ERIE PA., IS OFfered for sale or rent, including all materials tools and good will. A first class opening for a ship carpenter with moderate capital. Terms to suit purchaser. If not disposed of as a whole, will sell tools materials, etc., in lots to suit. For inventory, terms etc., apply at MARINE RECORD office, or to D. L. HUBBARD, Erie, Pa.